HINDUSTHANI MUSIC
ITS PHYSICS AND AESTHETICS

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BY THE SAME AUTHOR

Music of Maharashtra

Sangitachen Atmacharitra (Marathi)

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G. H. RANADE

BOMBAY
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Preface to Third Edition

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This also prevented a re-issue of this classic work. The present volume is a re-print which has been made possible because of help from several relatives and friends. I am grateful to them for this.

R. G. RANADE

B-4 Suyog Society
Sion East
Bombay-22
March, 1971

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Preface to the Second Edition

The First Edition of the book was sold out long ago and in spite of continuous demands for its copies, a fresh edition could not be published earlier, owing to various difficulties.

In preparing this edition the old text has been revised and several additions have been made at many places, particularly in the first four chapters. The historical survey taken in the First chapter now covers a much wider field and has been brought up-to-date. It contains such new topics as the Suddha scale of the Naghamät-e-Asafi, notes on Col. Peter and Capt. Willard, Bengali tunes, and a critical appreciation of some latest books on Indian music.

The laws of musical sound given in the Second chapter have been treated at greater length and are further explained in the light of the subjective experience of a listener. In the Third chapter which deals with the Evolution of the Musical Scales, a positive and constructive approach to the Sruti-Doctrine and its verification is given in as simple and clear a manner as possible.

The Fourth chapter is entirely rewritten and contains the substance of my research, conducted under a Research-grant from the University of Bombay since after the publication of the First Edition, and gives an analysis of the musical structure of the various non-classical forms of musical expression such as Vedic chant, Samagana,

Recitation of the Poetic Metres and the tunes of Folk-Songs. It also contains an analysis showing how non-classical forms start from poetry and make music subservient to it, while the classical forms start with music and make poetry the hand-maid of music. Some very interesting methods of effecting climax are described in the appendix to that chapter and should prove to be thought-provoking. The appendix also contains some thirty illustrative specimens rendered into musical notation, to substantiate the conclusions arrived at. The Fifth, Sixth and the Seventh chapters contain a full scientific discussion of the three Unities of Indian Music and of how, they shape its Æsthetics. The Eighth chapter deals with the several forms of Classical music. In the Ninth and the last chapter, it has been shown that the Rasa-Theory, as expounded by the old Sanskrit traditionists, has its own limitations and cannot explain the Rasa of music at its best, which latter easily leads one into a state of complete self-effacement, culminating in a higher consciousness which words have no power to describe.

The book is intended to be a general guide to the Physics and Æsthetics of music, in general, and Hindusthani music, in particular, and contains many original topics suggesting new lines of research. I do not however arrogate to myself the right of speaking for the South Indian system of music and leave that work to South Indian Scholars, themselves. My special thanks are due to the University of Bombay for its 'Publication grant' to the First Edition of this book and also for another 'Research grant' for prosecuting further research regarding Folk Music, the substance of which is now included in the Fourth chapter of this Edition.

I take this opportunity of expressing my sincere thanks to the Government of Bombay for having called me to act as Member and Secretary of the Committee, they had appointed in 1948, to survey the whole field of Music Education in the Province. I had thus an opportunity of studying the existing condition of music education at close quarters and in the light of information received in official and private discussions, I have reason to believe that the need for such books is felt all the more keenly. In fact, some of our School-Boards and Universities have already prescribed the book either as a text book or as one for general reading and I trust that they too will find the New Edition quite useful and dependable for a methodical and critical study of Indian Music.

I have to thank my former colleague Prof. D. G. Dhavle, now University-Professor of Physics, Poona University, for his help and advice in the preparation of this edition as well. I also thank all other gentlemen who have been of help to me in one way or another.

My thanks are due to the Aryabhushan press and its staff for the great pains they took in carefully printing this edition too.

Last but not the least, I express my deep debt of gratitude to my former patron the late Shrimant Narayanrao Babasaheb Ghorpade, late Chief of Ichalkaranji, whose sad demise took place a few years ago.

G. H. RANADE.

72/C Narayan Peth,
Poona 2.
January 2, 1951

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SIGNS AND SYMBOLS USED

Middle octave.	C D E F G A B.
Lower ,,	C_1 D_1 E_1 F_1 G_1 A_1 B_1
Higher ,,	c d e f g a b
Indian Notation.	Sa, Re, Ga, Ma, Pa, Dha, Ni.

Addition of dashes at the top indicates still higher octaves and that below those still lower.

Flats and double flats as:—$D\flat$, $D\flat\flat$, $A\flat$, $B\flat$, etc.

Sharps and double sharps as:— $A\sharp$, $F\sharp\sharp$ etc.

Septimal notes as:— ${}^{7}E\flat$ ${}^{7}b\flat$ etc.

Eleventh harmonic:— ${}^{11}F\sharp\sharp$.

Vibration number for the Middle C = 240.

Index number for the frequencies of the several notes is placed at the bottom, as:— $\begin{cases} C & D & E\flat \\ 24, & 27, & 28{\cdot}8 \end{cases}$ and so on.

Transliteration from Sanskrit into English

अ आ इ ई उ ऊ ऋ ॠ ए ऐ ओ औ
a ā i ī u ū ṛ ṝ e ai o au

क ख ग घ ङ च छ ज झ ञ ट ठ ड ढ ण
k kh g gh ṅ c ch j jh ñ ṭ ṭh ḍ ḍh ṇ

त थ द ध न प फ ब भ म य र ल व श ष स ह क्ष
t th d dh n p ph b bh m y r l v ś ṣ s h kṣ

CHAPTER I

A BRIEF SURVEY OF THE EVOLUTION OF INDIAN MUSIC

'Divine Truth, artistically represented to perception and feeling, forms the centre of the whole world of Art.' Truth however, as is often said, is half-concealed and half-revealed and hence closer acquaintance and association are needed to appreciate it in all its beauty. The artist, in man, feels it, is inspired by it, and feels happy and elevated in conveying to others his experience of the golden touch of Art. When this process resolves itself into a well-ordered and accomplished fact, Art makes over its conquests to Science and sets forth to explore unknown regions in the Land of the Beautiful.

The development of Indian Music is not an exception to the above rule. The cries[1] of birds and beasts—such as the cooing of the cuckoo or the neighing of the horse—were among the principal musical occurrences to catch the fancy of the early artist. From such small and simple beginnings, music in India had grown into a well-developed art, as far back as history can reach.

In the Vedic period, the hymns as a class used to be chanted and some of them were further set to tune and rhythm and thus there soon came into existence a class of singer-priests. The hymns needed accurate pronunciation and emphasis on particular syllables and words and extended over a fairly long duration of time. Their chanting, therefore, required great modulation of voice and insertion of intermediate pauses. Thus unconsciously, the essentials of both melody and rhythm came

into prominence. In the early stages, the melody was bound to be plain and curt. Gradually, the limits were widened and it moved through a fairly large portion of the scale. What was true of melody was equally true of rhythm. From a simple accent and a pause, the rhythm developed into a science of evergrowing and varied cycles of time-keeping. This resulted in a greater polish in the practice of the art and before long a Theory—rather a Grammar[2]—of music based partly on observed facts and partly on hypothetical prepossessions came into existence.

The Vedic hymns were however too grave and rigid a subject for so plastic and subtle an art as music. Eventually, music made a move towards the lighter side of life, and was more at ease with it, as it always has at its command a rare wealth of emotional appeal. On this account, music has always been considered to be the fittest medium to express the joys and sorrows, the languishing hopes and despairs and the thousand and one little vanities of the human race. It is no wonder, therefore, if its field of activity soon shifted from the altar to the stage. Thus, there were performers for all occasions, religious or festive. There was already the singer-priest who perhaps in course of time became the temple-singer. There was the tramp—as he is there even to-day—who went round the country and entertained the country-folk. Lastly, there were reputed actors and actresses, who performed for the kings or for people of more urbane tastes.

This really marked the beginning of a true and classical form of music. The popular practices of the earlier period were abandoned and several innovations were adopted, as the result of a close observation of the

nature of musical sounds. The opera of those days consisted of vocal as well as of a number of instrumental performers. Among the instruments, there were stringed instruments of many kinds—some to be directly plucked and played and others to be played with a bow. There were in addition, flutes, horns, cymbals and drums of many kinds. These facts clearly show that in those days, music was on the high road to advancement. The oldest and probably the first detailed exposition of the Theory of Indian Music belongs to this period. In the "Nāṭya Śāstra" or the Science of Dramaturgy, the sage Bharata (prior to 300 B. C.) gives a clear and detailed account of the Swaras—musical notes, of the Srutis—the microtonal intervals between the successive degrees of the scale, of the two Grāmas—parent scales, and of the Mūrchanās—scales obtained by transposition. He has further given a detailed account of an experimental method[3] for deducing the Srutī-ratios. The method is rather crude, yet its merit lies in the fact that it is perfectly critical and truly scientific in spirit. We may, therefore, say that the foundations of the Physics of Indian music were well and truly laid by the time of Bharata.

In his days, there were the two parent scales and eighteen Jātis. Seven of these were derived from the Ṣaḍja Grāma and the remaining eleven were obtained from the Madhyama Grāma. Of these again only four from the Ṣaḍja Grāma and three from the Madhyama Grama were called Śuddha Jātis and the rest were obtained by the fusion of two or more Jātis from each Grāma. Thus all the music was classified in eighteen broad groups or Jātis. Two songs widely differing in their melodic progression and æsthetic appeal were classed together, simply because the scale of each was derived from

the same Jāti. A finer distinction was perhaps needed and so, in later years, each Jati was further split up into or was replaced by what are now known as Rāgas. A Rāga has almost the same meaning as the term 'melody-type' in English, with the addition, however, that it is based upon melodic as well as æsthetic possibilities. It appears that the Rāgas came into being after Bharata and their coming marks a new era in the history of Indian music.

There is, however, no evidence to determine the commencement of this new period accurately. The earliest and the most reliable reference to the Rāga-system is to be found in the Bṛhatdeśī of Matanga (about 400 A. D.). In introducing the Rāga-system he says that as the Rāga-way was neither explained nor referred to by Bharata and others, it was up to him to explain the same, in accordance with the practices then current[4]. This shows that the Rāga-system was already ripe and had developed well-respected standards, in the days of Matanga. It seems that not only the experts, but society, as a whole, made due contribution to the formulation of new and popular Rāgas. It is for the detailed explanation of the 'popular system of music' that Matanga wrote his epitome on music. In fact, he names his book as Bṛhatdeśī, meaning 'A treatise on popular music'. By the word 'Deśī' he means the type of music sung or liked by men, women and children, as well as by kings[5]. By the time of Matanga, not only were the Jātis of Bharata replaced by the Rāgas, but the more orthodox types of the Rāgas also were further replaced by the new and popular types which evolved from day to day.

The Brhatdeśī largely draws upon the earlier works and particularly upon the Nāṭya Śāstra of Bharata and

mostly deals with the same topics, the only addition being the chapters dealing with the Rāgas. But particular interest attaches to the fact, that the Rāga-idea had become sufficiently old and the old Rāgas were being replaced by new and popular ones. When and how the change took place is not told by Matanga, but the significant references to music, in old works of art, point to a very early date, indeed! As an illustration, it may be pointed out that an analysis of the works of Kālidāsa shows that the great poet closely followed the rules of art, as laid down in the Nātya-Śāstra of Bharata. The frequent and significant use of musical terms and similes, the stage directions for singing particular verses only, and the propriety of time and melody of music to the occasion show that the poet was very well up in the science and art of music. Nay, he had indeed gone a step ahead of Bharata; for, Kālidāsa is found to have composed songs in one or two Rāgas. We can say this definitely at least of one song[6], viz. that which the Naṭī sings in the prelude to the opening act of the Abhijñān-Śākuntalam. The song, as it appears, was to be sung in Sāranga[7] (Madhyamādi)—the very first Rāga of the renaissance period (or the period of the modern Rāgas[8] later on referred to by Śārṅgadeva, the author of the Sangīta Ratnākar). This indicates that the musical renaissance had begun as early as the period of Kālidāsa, if not earlier.

That the Rāga-system came into being in very old days is borne out by evidence from a still different quarter. In the parody of a musician, which forms the subject matter of one of the fables in the famous 'Pañcatantra' (5th century A. D.), an ass poses as a great musician and in support of the fineness and delicacy of its performance, quotes the musical doctrine and further

explains the Rāga-system. The details about music given in this fable compare very favourably with those of the Northern school of Indian music, even of to-day.

The next authoritative work on music belongs to the early thirteenth century. It is the famous Sangīta Ratnākara of Sārṅgadeva, who still inspires reverence in the minds of India's musicians. He lived at the court of the Yādav kings of Devagiri. The Sangīta Ratnākara deals at great length with music in all the three traditional aspects of it, viz. vocal and instrumental music and dancing Bharata had already dealt with these three aspects, in his Nātya Sāstra. His music, however, had not developed any Rāgas. Matanga wanted to describe instrumental music, in continuation of the general theory of (vocal) music but unfortunately further portions of his work have not been yet unearthed. But Matanga gives a good account of the Rāga-system. Sārṅgadeva, the author of the Sangīta Ratnākara, is more elaborate and scholarly in his treatment of the general doctrine of music, but does not in spirit differ much from either Bharata or Matanga. In fact, he quotes them very often and appears to have closely followed the latter, particularly in his arrangement of the several topics. Thus, he has devoted special chapters to instrumental music and dancing, in addition to those giving the general theory of vocal music. The treatment of vocal music in the Ratnākara is of course more exhaustive than that in the Brhatdesi, but smacks of pedantry. For, Śārṅgadeva tried to link the music of his day with that of the past, though at one place he frankly admits that the old type of music was altogether extinct. The Jātis of Bharata had disappeared by the time of Matanga and the Rāgas had taken their place. These Rāgas again were replaced by fresh and new varie-

ties, such as the Adhunāprasiddha[8] Rāgas of Śārṅgadeva or those Rāgas well-known and current in his day. Under these circumstances, the most reasonable course, for Śārṅgadeva would have been to trace the growth of his Rāgas out of the older Rāgas, and the growth of these, in their turn, out of the Jātis or else to describe the Rāgas of his day, quite independently of the old forsaken practices of which there is ground to believe Sārṅgadeva himself had nothing beyond a vague idea. There is, therefore, a lot of controversy and confusion as to whether his music has anything in common with the present-day music, either of the North or of the South of India or whether his system was altogether a different one. The later Pandits of both the schools, however, based their systems on that of the Ratnākara in spite of the fact that the two schools differed widely in their practices. This made matters worse, indeed! A Pandit never stopped to think to which school of music his art belonged and how different were the practices of his day from those of the ancient times, before he set himself to write an epitome on music. What he did was merely to copy the old works and somehow fasten his own practices and beliefs on them. The music of Śārṅgadeva is not therefore clearly understood in any part of the country and until recently[8] not even one of the Rāgas, elaborately described by him, could be successfully identified. The other portions of the Ratnākara, however, deal with the whole range of musical form and composition and make the treatise a useful guide in many respects.

Just after Śārṅgadeva, i. e. soon after the close of the thirteenth century, the Mohammedans invaded the Deccan and overthrew the dynasty of the Yādavas of Devagiri. This had its own reactions on Indian music,

as on other matters of culture. Persian models began to be introduced into Indian music, evidently widening the gulf between the Northern and Southern schools. The Northern school later on adopted a new scale as its basic or Śuddha scale, while the Southern school retained the traditional one. Scholars believe that this change in the Northern school was wholly due to our contact with the Persian art of which Amir Khushru was the pioneer. With his rare insight and art, he introduced new and finer variations of the Rāgas and invented new instruments. It is, therefore, true that he not only contributed to the polish of the art but also extended its possibilities. But, it is equally true that his attempts could not alter its traditional Hindu character. Perhaps, he never attempted any such alteration at all! Amir Khushru himself says a[t] one place:—

"I am an Indian, if a Turk.
I do not derive my inspiration from Egypt.
I do not therefore speak of Arabia,
My lyre responds to the Indian Theme."

Curiously enough, Amir Khushru is the inventor of a lyre, the famous Sitār of to-day. The Śuddha scale of the Sitār is the same as the Śuddha scale of the Northern school and is believed to be a transposed form of the ancient Śuddha scale of the Veenā, of which the Sitār is but a modified form.

If we take into consideration all the sharps and flats of the Sitār-scale, then it happens to be a scale with twelve semi-tones to an octave. This scale gives the twelve identical notes, which the Southern Pandits use as the basis of their system. The Sitār is thus a good

compromise between the two schools; the major forms of the notes giving the model scale of the North, and the minor forms giving the model scale of the South. Like the tempered scale of the West, it serves the needs of both the schools fairly satisfactorily. Thus, it will be clear that the Sitār-scale does not in the least suggest that Amir Khushru ever intended to effect any changes in the old Indian art, but on the other hand, strongly indicates that by inventing an ingenious instrument like the Sitār, Khushru has left to posterity an easy means of bringing the two schools as near each other as possible.

But the later theorists freely borrowed from the older works and added to the confusion already made by Sārṅgadeva. Most of them, however, were practical musicians of a high order and so the detailed information given by them about the practices current in their own days is certainly interesting and valuable. Some of them really tried to systematise their views on rational lines, and among them, Pandit Ahobala, the author of the Sangīta–Pārijāta (early 17th century) deserves special notice. It is he who first gave the relation between (the pitch of) the different degrees of the scale in terms of the speaking length of a wire under constant tension[9]. Ahobala may, therefore, be said to have taken a further step in the experimental development of the laws of Indian music.

It is enough to say, here, that similar attempts were made by many Pandits almost till the end of the Mughal period. But most of them belonged to the Southern school and there were only a few who described the traditions of the Northern school. But even among the latter, there were none who started with the Suddha scale as it was. These, therefore, merely reiterated

in a more or less modified form what Ahobala had already said. From this period onwards, we may say that the progress of the study of the science of music was checked, as the artistes, pandering to the tastes of their masters, began to take all sorts of liberties with the orthodox Rāgas. This caused the art to drift and created much disorder in its practice. Yet, to this period (16th and 17th centuries A. D.) belong a few artistes like Haridās, Tānsen, Surdās, Tulsīdās, Jagannātha Sadārang and Adhārang, who, though innocent of the laws of musical sound, were great men of genius. Like Palestrina (1524–1594 A. D.), they were guided in their paths by feeling, fancy and inspiration and have left an imperishable record behind them. They thus unconsciously laid down the foundations of what we call the classical style of to-day, which easily distinguishes the present-day music of the North from that of the South.

Yet the distinct set-back given to science was so great and annoying, that by the time of the early British period, thinking people were thoroughly disgusted with the absurd classifications and meaningless conventions of the time. Thus, there were numerous Matas[10] or schools of musical traditions and lore, which hardly agreed with one another. One really wished for a simple yet a rational way out of the chaos. A step in the right direction was first taken by Mahārāja Pratāp-Singh-Deva of Jaipur (1779–1801 A. D.), who called a conference of the Pandits and experts of his day and in consultation with them got a standard work on Hindusthani music written, called the 'Rādhā Govind Sangitasāra. It was certainly a praiseworthy attempt, as it has preserved in writing the opinions of the best available experts of that period. In the opinion of Pandit Bhātkhande, "the literary talent available to the Maharaja, at that time,

does not however appear to have been of a superior order." The work refers to good many Sanskrit authorities, notably to Ratnākara, Darpana, Rāgamālā, Anūpa Vilās, Pārijāta and others, but according to Pandit Bhātkhande 'the Pandits of Maharaja Pratap Singh do not seem to have followed or rightly understood even one of them.' The Swarādhyāya of the Sangitasāra is but a mere Hindi translation of the chapter of the same name in Ratnākara, and does not in any way help a reader to unlock the riddle of the ancient Suddha scale of our music. Yet Pandit Bhātkhande says that it appears to be the Bilāwal scale, which however is a very doubtful proposition and does not stand in view of a critical examination of the available material on the point both in and outside the Sangitasāra, an authorised edition of which has been duly published by the Poona Gāyan Samāja.

Naghamat-e-Asafi of Mohammed Reza is yet another work of the same type and was compiled by its author about the year 1814. Thoroughly dissatisfied with the absurd and meaningless Rāga-Rāgiṇi-Putra classification of his time, Reza took it into his head to introduce some sort of intelligent principle in the classification. Before doing so, he boldly criticised all the four Matas or systems of music, current in his day, and pronounced them as wholly out-of-date and unsuited to the spirit and practice of his time. The central principle upon which he based his own Mata or system was that between every Rāga and its Rāgiṇis, there must be some close similarity or common features. So far as is known, only a few possess its copies in the manuscript form. But a fairly detailed and critical account of its contents has been given by Pandit Bhātkhande in his Hindusthāni Sangita Paddhati

Vol. III, pp. 120–138, and also incidentally in his other books. In summarising his views about the Suddha or probable basic scale of the Naghamat-e-Asafi, on page 136, Pandit Bhātkhande says that Reza has nowhere referred to his notes as Śuddha nor has he stated the intervals between the notes of his scale. Pandit Bhātkhande has therefore left his readers to make their own surmise in the matter and on his own part has suggested a scheme in which Reza's scale possibly consisted of the following twenty-two notes:—One Sa, three forms of Re, five forms of Ga, four forms of Ma, one Pa, three forms of Dha, and five of Ni; in all twenty-two. By and by, Pandit Bhātkhande however began to advocate that the Śuddha scale of the Naghamāt-e-Asafi has been the Bilāwal scale, perhaps to get added support to his own proposition that the Bilāwal scale is the Śuddha scale of Hindusthāni music. It is, however, difficult to accept this view and to reconcile Pandit Bhātkhande with Pandit Bhātkhande himself, but of the earlier days. Contemporary evidence, too, does not support this later view of Pandit Bhātkhande; for the Naghamāt-e-Āsafi, like its immediate predecessor the Śangitasār of Maharaja Pratāpsingh or its immediate successor 'The Music of Hindostan' of Captain Willard, does not even once refer to any of its notes as Śuddha, but on the contrary uses the Grāma-Mūrchanā language in the definition of its Rāgas, definitions denouncing the older Matas as foolish and intended to set the house of music in order. (vide page 132 of Hindusthāni Sangit Paddhati Vol. 111—definition of the Bhairava Rāga.)

This brings us to the early British period during which, with the exception of Sir William Jones who had published an article on 'The Musical Modes of the Hindus' as early as 1784, no other European scholar

appears to have taken any interest in Indian Music. On the contrary, music lost its royal patronage and remained confined to the courts of the Indian Princes, but for whose genuine appreciation and noble patronage it would have become almost extinct. In the army of some of these Princes, there used to be some European officers and those with a taste for music incidentally had many opportunities of listening to good music and also of associating themselves closely with the court-musicians. An anecdote about one Col. Peter of the old Gwalior Army runs that he was both a good composer and an excellent performer of vocal music and as they say some of his Chij-s are current in Gwalior even to this day.

Another famous instance is that of Capt. N. A. Willard who was also an officer in the army of the Bāndā state. It appears that Willard had a sound knowledge of the theory and practice of the European System of Music and was gifted with the power of close observation and study. He was a skilful performer on several of our musical instruments. His famous book 'A Treatise on the Music of Hindostan' was published at Calcutta in 1834. He has been sympathetic and essentially Indian in his approach to the subject. The book is valuable for the data collected in consultation with the leading musicians of his time and for the observations and generalisations which show its author's deep insight and sound acquaintance with the professional technique. According to him 'from the theory of music a defection had taken place in its practice, and men of learning used to confine themselves exclusively to the former, while the latter branch was abandoned entirely to the illiterate.' Naturally, the theory that a professional knew did not go beyond a smattering knowledge of a number of technical terms and the tuning of some instruments, supported by

a working hypothesis built out of fragments indifferently collected from old Sanskrit works on music and also from hear-say. He further says that the musicians of his day never used the term 'Śuddha' for any of the musical notes such as the 'Re, Ga, Dha, Ni' of to-day, but invariably referred to them as 'Tīvra' or sharp. Published only twenty years after the Naghamāt-e-Āsafi, Willard's book makes no mention of the Bilāwal scale as the Śuddha scale of Indian music. It is therefore doubtful whether Mohammed Reza the author of the Naghamāt-e-Āsafi ever proposed any or even the Bilāwal scale, as the Śuddha scale of Hindusthāni music as Pandit Bhātkhande would have us believe. It needs no argument to prove that Willard on account of his superior general education and critical ability is inherently more dependable than Mohammed Reza and the more so because he was also an expert of the Western system of Music and had a sound knowledge of acoustics and the art of putting into notation any music heard. The suggestion that the Śuddha scale of the Naghamāt-e-Asafi must have been the Bilāwal scale of to-day has therefore no clear sanction of contemporary evidence or traditions, though it may be said to be a very brilliant and useful creation of the late Pandit Bhātkhande himself.

It was only in the latter part of the nineteenth century that eminent Indian as well as European scholars took to the study of Indian music. Of the European scholars of this period, most showed a peculiar want of imagination, in trying to solve the problem of Indian music by a literal interpretation of ancient Indian works on music, combined with the use of mathematical tables[11]. A literal interpretation of many passages often leads one into a vicious circle of arguments. Again, mathematical measurements, of the distance between the frets of an

instrument or the length of a speaking wire on the Veeṇā, do not often represent the true length. Playing on the Veeṇā, or any Indian instrument with strings, is largely a matter of guess-work, for a large number of the notes employed are obtained by increasing the tension of the wire, by pressing it hard with the finger and by dragging it further on to one side. Under these circumstances, one cannot expect to find much about the Indian scales by measuring the wire-lengths or the spaces between the frets of the different stringed instruments. Yet, this was the method employed by such workers as Mr. Ellis and Mr. Hipkins in the verification of the Indian scales. The work of such scholars, though pursued on truly scientific lines, had but little practical value and in some cases only helped to feed the fire of prejudice against Indian music, by providing a faulty standard of contrast between the Indian and European systems of music.

Among the contemporary Indian works, the publication in print of such great song-books as the Sūrsāgar and those of the Pusti-Mārga greatly revived the interest of the educated classes in the old compositions, which sadly enough undergo even to this day great mutilation and disfigurement at the hands of our professionals. These song-books are veritable repositories of the best compositions in Hindusthāni music.

The Rāga Kalpadruma of Krisnānanda Vyās is another great collection of old compositions and freely draws upon the Sūrsāgar and the song-books of the Puṣṭi-Mārga in addition to those chij-s which the author collected from all possible sources, great or small. The industry and patience of the author in bringing out such a gigantic collection certainly command our admiration particularly

when we know that he had to toil for it for well over twentyfive years and had to go on foot from one end of the country to the other for a number of times, in pursuit of old and rare compositions. It was first published in 1842, at Calcutta.

A pamphlet called the 'Gīta Lipi', written by Mr. G. L. Chatre and after his untimely death revised by his brother the famous Keropant Chatre, stands out as a distinct landmark in the history of the early attempts of the educated classes to make the teaching of music, simple yet sound. It gives the elementary laws of sound and the scales and the staff-notation of the European system of music in plain everyday language and has proposed a similar system of notation for the purposes of recording Indian songs. It was published, in 1864, by Raosaheb V. N. Mandlik of Bombay, who in his introduction says that the book was prepared for use in the Girls' School conducted by the Literary and Scientific Society of Bombay. It consists of 39 pages and eight charts of notation and eight specimen songs also put into notation. The interest attaching to this book is in the fact that it is perhaps the very first book which advocated and framed a system of notation for Indian Music.

Sir Shourindra Mohan Tagore is another great figure of those days and is well known for his patronage to music. Between 1867 and 1896, he published a number of books on music among which 'The Universal History of Music' needs special mention. The 'Geeta Sūtra Sār' (1887) of Krishnadhan Bannerjee and 'A Discussion on India Music' (1894) by Bhawānrao Pingle are two other good books looking much ahead of their time.

As early as 1883, Pandit Bālkrishnabuwā, a learned and brilliant musician of the Gwalior Gharana of Hassukhan

and popularly known as the Doyen among the musicians of Mahārāshtra used to publish, at Bombay, a quarterly journal of music called the 'Sangita Darpana and in its pages we find a good exposition of the well-known Rāgas accompanied by illustrations duly rendered into simple music notation. He had thus forestalled many an advocate of music notation known to this generation.

The Sangita Kalādhara of Pandit Dāhyābhai of Bhāvnagar is another work of the period which needs special mention and contains a large number of old songs rendered into music notation, which is simple and clear enough.

The Poona Gāyan-Samāja (founded in 1874) was a very influential body and soon spread its activities even at a far-off place like Madras. Almost all the great men in these parts were associated with it in some way or the other and among its patrons are to be found the names of such illustrious personages as H. R. H. the then Duke of Connaught, and H. R. H. the then Prince of Wales (H. M. Edward VII). No other music institution can boast of such glorious traditions richly deserved by its publication of various works on music such as the Rādhā Govind Sangit Sār and by creating among the public a taste for good music and its academical study

In more recent years, notable contribution towards the study of music was made by men like the late Pandit Vishnu Digambar of country-wide fame, and a learned disciple of the famous Bālkrishnabuwā. It was really he, who rescued music from the clutches of its vulgar caterer and by popularising it among the educated classes, prepared the way for the theories of Pandit Bhātkhande and others. He has also devised a system of music-notation

which is capable of recording old songs in a very faithful manner. The chief merit of the Pandit's work lies in the fact that he published in notation whole songs, with all their progressions, embellishments and rhythmic variations and has thus left to posterity complete units of continuous and whole performances, as it were, of old classical songs.

Mr. Clements (I. C. S Retired) and Mr. Deval of Sangli edited many books on music under the auspices of the Phil-Harmonic Society of Western India. Their chief contribution to the study of Indian music lies in their research about the 'Intonation of Indian Music' and in their actual testing of many of the Rāga-scales, with the help of the Dichord. They have also invented a simple form of staff-notation, which can faithfully record any Indian song.

Mr. Clements and Mr. Fox-Strangways deserve our thanks for yet another service which they have rendered to the cause of Indian music. Both of them are critics, gifted with rare insight and intelligence and by their able exposition of several musical topics have opened new avenues of critical and comparative standards of judging Indian music from the view-point of the Westerner.

Next in the field, is the outstanding personality of the late Pandit Bhātkhande, B. A., LL. B. and an Advocate of Bombay. A truly modern man of a selfless spirit and well-equipped with talent and education, he saw that it was possible to establish the current Hindusthāni Music System on a sound foundation, so as to render its study easy and intelligible. He was able to do so by successfully applying the Mela-Kartā method of the Southern Pandit Vyankat

makhi to the Northern system, without much sacrificing any of its specialities. As a result, he wrote a book in Sanskrit called 'Lakshya-Sangīta' and published it in 1910, under a pseudonym. The book was written in the strains of the old Shāstric school and Pandit Bhātkhande in support of his statements elsewhere, freely quoted himself under the pseudonym. The third-person references and the high tributes paid to the book by Pandit Bhātkhande himself, were couched in such a language as to persuade a reader to think that the book was an extraordinary discovery and was the work of some Pandit belonging to a much earlier period. Pandit Bhātkhande had a very sharp wit and a natural gift of quick and clear judgment. But an Advocate he was and an advocate he remained to the last. In his books he has devoted pages after pages to criticising his opponents in a very scathing and unsparing manner, though many of his own statements cannot go unchallenged. All these things provided his adversaries with much capital against him. But the book had its own merits. It gave in a very simple and compact form a practical basis for the Northern school of Indian music. The patterns for classifying the Rāgas were few and simple and as they were first arrived at, by the selection of common features from similar or allied Rāgas, it is no wonder if they easily conformed to the current practices. As the book had a workable basis in view, the author rejected the critical method, assumed certain things and wrote it in the manner of the Naghmat-e-Asafi of the early nineteenth century. The book easily appealed to the student of music with the popular mentality, but the more critically minded thought that Pandit Bhātkhande in his zeal for compactness and patterns sacrificed facts to forms. Pandit Bhātkhande, however, firmly believed in the utility of his method and thought that it would do more

good than harm to the study of Indian music. He, therefore, did not mind the criticism levelled against him and spared no pains in collecting, collating and editing old books and manuscripts on music. Simultaneously with this, he collected detailed information about a large number of Rāgas with a host of rare Chīj-s or songs illustrating each Rāga, set such Chīj-s to notation and published them in four[12] big volumes. In his famous Hindusthāni Sangīt-Paddhati also extending to four volumes and covering about 2500 pages, he gave the theory of Indian music and attempted in his own way to trace the historical growth and transitions in the form of each Rāga. His was a gigantic task and it is hard to conceive how one man could ever have executed it, and executed it so successfully, in one life time! Yet Pandit Bhātkhande has done the impossible! He cleared off the debris accumulated up to his time, laid bare the solid foundations of the system and built on them a wonderful structure of his own, in imitation of the archaic style of the old Pandits. His method, however, is essentially historical and does not directly concern itself with the important bearings of the laws of sound, on many musical questions.

The latest adherents of Pandit Bhātkhande are from Bengal. A time there was when Bengal paid its homage only to the indigenous Visṇupur School of Music and had but scant respect for the Hindusthāni School. Mr. Krisnadhan Bannerjee the author of the 'Gitasutrasar' is, however, vehement in his criticism of the works of Ksetra Mohan Goswāmi the apostle of the Visnupur School, and from the apologetic character of the defence of Goswāmi by modern Bengali writers, it seems that Banerjee's criticism was not unfair. Classical music, which was till then a close preserve of the Ustads and a

subject of admiration by the chosen few, gradually worked up its way to the inside of the Bengali household. Simultaneously, however, the novel tunes of Tagore's songs and the fresh orientation he gave to music had made their own impacts on the classical Rāgas and for a time ruled supreme in Bengal. Tagore's adaptations of European tunes and his crossing of one Rāga with another in an unconventional manner led to confusion in the name of artistic execution. A non-Bengalee, who cannot follow the meaning of the songs, thinks that their tunes distinctly jar on his ears, on account of their out-of-the way or exotic musical contour. In fact outside Bengal, the so-called Bengali type of music passes for a by-word to mean hybrid music. The later imitators of Tagore and the film-producers who traded in this music for a less worthy cause are perhaps the real culprits in the matter. Any way, the Bengalees like all practically-minded people have come to consider Pandit Bhātkhande's system as the one best suited for learning and teaching music in an easy manner. There are indications, however, that the Bengali scholars, like many others elsewhere, have come to find, in Pandit Bhātkhande's system, many loopholes in the form of inconsistencies and dogmas which lie hidden under the camouflage of a utiliterian theory and short-cut methods.

In 1943, the India Society of London published a very informative book called 'An Introduction to the Study of Musical Scales' by Allain Danielou, a well-known scholar and musician. He is quite frank and sympathetic in his views and his comparative study of the Western and Eastern Systems of Music is a proof of his sound scholarship and impartial judgment.. He has strongly criticised many European writers on Indian music for

their hollowness, hatred and hypocrisy (only such terms can bring out the full force of his criticism) and for their unwarranted sweeping statements, meant to belittle the antiquity and the truly scientific character of the Indian system. The copious historical references with which he substantiates his views and the large number of carefully worked-up tables, showing the ratios for Srutis and the musical notes and scales etc. are bound to be of very great help to all students of music.

To modern scholars, Danielou may however appear to be somewhat antique in his views, since he subordinates science to metaphysical analogies and personal beliefs. Our more immediate interest however requires us to restrict ourselves to his exposition of the Indian system. On the surface of it, his treatment looks like a grand mosaic but is really full of contradictions and anachronisms as he has tacked together ancient and modern works belonging to different centuries though they have little in common. Thus, their conventions are different; so also are their notes, the scales and the æsthetic affinities attached to them. None of them has unlocked the riddle of the Śrutis beyond doubt and the unscientific character of many has been conclusively proved. The citations from such and particularly from the present-day writers (some named and others though not named, easily recognisable from the quotations) may not impress a reader who knows them in the original and also knows the periodic transitions in their views and in some cases their pretended antique character. Music lovers must however thank M. Danielou for his sincerity and genuine appreciation of Indian music.

Quite recently, M. Danielou has published yet another book called 'Northern Indian Music' intended to

give the history and growth of the theory and practice of music in India, in general, and in its Northern part, in particular. It is mainly a bibliographical volume and contains the original sources with a running commentary by the author. In many places, he has repeated much of what he has once said in his earlier book,—perhaps to preserve the continuity of the subject-matter for a fresh reader. Some of his surmises regarding the early history of Indian music and the possible contribution made to it during the Buddhistic period need critical corroboration before they could be accepted. The book is like a traveller's guide and appears to have been written principally for the European tourist in the wonderland of Indian music. As such, it may serve as a handy catalogue of the sources along with explanation and translation into English of the various technical terms and conventions of Indian music, ancient and modern It must however be said that the book lacks the freshness and promise held up by the earlier book.

To the modern student of music, who may ask the why and the how of every thing, only a mass-collection of the Rāgas and other incidental details would not convey everything that constitutes music. It would also be impossible for him to pass lightly over conventions and practices or even metaphysical analogies which may appear to him as irrational or unscientific. Thus, at every step, he would demand a rational explanation of what the Art has achieved by means of delicate æsthetic feeling. The study of music in relation to the laws of musical sound alone can offer such a rational explanation.

Musically there is a mass-awakening in modern India and public demands for the inclusion of music in our educational system have met with partial success at the

hands of our Government and Universities. In such circumstances, it is high time that the system of Indian music were subjected to a critical analysis from the view-point of modern science. It is hoped that the present analysis would clearly disclose that the system is based not on caprice but on broad scienctific principles, which go a long way in building up the essential unities of Indian music. It would also show that the various æsthetic processes it employs have their origin and also culmination in these unities. It is with such a belief that the author thinks it worthwhile to place his humble views regarding the matter before all lovers and students of the Art and Science of Indian Music.

CHAPTER II

THE NATURE AND LIMITATIONS OF THE FUNCTION OF MUSIC AND THE LAWS OF MUSICAL SOUND

For an intelligent appreciation of the part played by music as an Art, it is necessary to know its place in the family of Arts and the nature and limitations of its function.

'Music is not an isolated Art. It forms a most necessary link in the great family of Arts. Its origin is to be looked for, at the same source as that of the other Arts. Its ideal functions are also the same.'

'Art in general is that magic instrumentality by means of which man's mind reveals to man's senses that mystery—'the Beautiful.'

In the realm of art, contact with the Beautiful is first established by drawing our attention to the close similarity between the beauties of Art and the beauties of Nature. The beauties of Nature are however the result of physical facts and are inseparable from their material cause. 'The beauties of Art, on the other hand, are an address to the inward mind and have an existence in the mental consciousness.' They are indeed beyond the reach of physical facts or pure nature and do not find a true, much less a full, expression in them. Art therefore seeks to find a true revelation and reality in itself.' It thus tries to transform the material world into an ideal world. Music, being the least material of all the Arts, easily surpasses the rest in this respect and is therefore justly called the Art of all Arts.

But then, music is not altogether free to choose its own way. For, as it must necessarily employ the medium of sound for its expression, it must first obey the laws of musical sound, before being able to discharge its higher function as a pure art. Thus, music is a dual entity—it is a science as a matter of exigency and is an art, by nature. As a science it has to obey certain physical laws, while as an art it creates its own forms and order, so as to make a direct appeal to man's æsthetic instincts and enrich him emotionally. Truly good music cannot therefore afford to sacrifice any of these aspects; indeed the two are inseparable! For, music without æsthetic appeal is a meaningless tyranny, however scientific it may be in its physical form, while a mere poetic call on the imagination has not the power to make the same direct and tender appeal, as when it is accompanied by even a cursory melodic phrase. The processes which infuse artistic and emotional values in music form the æsthetics of music. Such values are often secured by the extension of the physical laws and in some cases by a deliberate departure from them. The reason for the departure is that the material unity of the Beautiful with the rigid physical structure is a narrower unity and soon ceases to keep pace with the highest spirit of Art. Art therefore, breaks through the armour of the material form, disengages itself from its shackles and rises higher, reborn and radiant as it were with the glory of resurrection. But, as will be seen later on, this occurs not in blunt defiance of the physical laws, but rather as a continuation of the spirit for which these laws stand.

Thus, to understand any system of music and the technique of its several forms of expression, it is necessary to know these laws at the very outset:

We may, therefore, state these physical laws first and postpone the consideration of the æsthetic principles to a later chapter.

To begin with, music finds an expression only through the medium of sound.

Sound, which is musical, is pleasing to the ear while noise is distinctly jarring.

In a musical note, however attentively we may listen to it, we perceive no change or variation. The sensation is perfectly continuous and uniform.

A noise on the other hand is the result of rapid irregular and distinctly perceptible alternations of various kinds of sounds, which crop up in a fitful manner. By international agreement, noise is now defined as 'sound undesired by the recipient.' This is a distressingly subjective definition; for a noise in its physical sense certainly differs from a musical note. But so far as music is concerned the definition need not be objected to, as a note, not permissible in a Rāga or chosen melodic pattern, if sung or played through mistake, does jar on the ears of its listeners and in general, even the best of music, when not wanted, becomes a tyranny.

Again, we may often come across a sound which is a mixture of the two.

A stretched string gives a perfectly musical sound. A beginner on the violin, however, produces a sound, in which the scratching of the bow spoils the musical character of the note. Hence such a sound is a mixture, in which the element of noise preponderates.

Human voice can produce sounds of either class. In singing a sustained note, it remains quite steady, neither rising nor falling. In conversation or reading, however, it perpetually varies in pitch. A speech, wanting in such variations becomes monotonous.

All musical sounds, whatever their origin, may be distinguished from each other, by three different qualities.

Firstly, by the loudness or intensity.

Secondly, by the pitch.

Lastly, by the difference in the peculiar quality or timbre.

For our purpose, we shall concern ourselves with the study of musical sounds only, as the study of noises has no direct bearing on music.

Loudness:—Loudness depends in the first place on the greater or less energy by which the sound is produced. Thus, when a stretched string is forcibly plucked, the sound is louder than when it is plucked or bowed lightly. Again the note of a stretched string gradually becomes less and less loud and finally dies away altogether. In all such cases, the loudness is directly dependent upon the amplitude–which on its own part is dependent upon the energy which produces the sound and wears away with time.

Next, it depends upon the nature and density of the medium, which transmits the sound.

Lastly, the loudness depends upon the distance of the listener from the sounding body. In an isotropic medium, it varies inversely as the square of the distance. Thus, at double the distance the loudness becomes four times less, at three times the distance, it becomes nine times less and so on.

The above are the general laws about the loudness of sound. Temporary variations can however be effected. For instance, the intensity of sound, confined to a tube, does not diminish even after a considerable distance and remains practically constant.

Again, the note of a tuning fork, mounted on a sounding board or a hollow box, is much louder than when it is not so mounted. In this case, the box is said to vibrate in a forced manner, along with the tuning fork. The loudness however suffers very rapidly due to a greater rate of demand on the original energy, which now spends itself much sooner.

The proximity of bodies having the same natural period as the vibrating body is yet another factor which causes the reinforcement of the original sound. This is a case of sympathetic vibration or resonance. The bodies though not in any physical contact with the sounding body, on account of their having the same natural period as the latter, pick up the excitement of their own accord or as it is called, sympathetically, and reinforce the original sound.

In practice all musical instruments are so designed as to combine a generator with a radiator of sound. The former generates the notes of the desired pitch while the latter in the form of a resonance-box, sound-board or a gourd etc. prevents what is called 'circulation' and gives increased loudness to the notes.

Apart from the laws of Physics governing the loudness of sound, there is a subjective side to the appreciation of its intensity. A note, which should be normally audible, is often not heard or is masked by another, sounding more loudly and simultaneously. On the contrary, a passenger, in a moving train, who thinks that he is talking or singing quite in his normal tone, is surprised to

find, if the train stops, that he is really exerting his voice a little too much above the normal. This explains why the finer shades of music do not come within the threshold of hearing during day-time, when the general noise-level is high, but are easily heard and appreciated at night. Hence it is that night time is always preferred for musical performances.

Pitch:—The second characteristic of a musical note is its 'Pitch'. It depends upon the number of vibrations, per second, of the sounding body.

Pitch is independent of the amplitude of the vibration. The pitch of a musical note, like the number of vibrations of a pendulum, remains sensibly the same, irrespective of the gradual loss in amplitude.

It is found that the human ear can pick up sounds of frequency roughly between 20 to 38000 per second. The lower limit is mostly the same for all, but the upper limit may widely differ from individual to individual and comes down with old age. All the notes between these limits are not, however, employed in music.

Even for a rough musical effect, it is found that a note must have at least 30 vibrations per second, the upper limit being near about 4000. Though musical instruments are able to give any note between these limits, for vocal performance, the limits are brought still closer, since the well-developed voice of a singer can at best cover about three octaves.

For a stretched string, under constant tension, the pitch varies inversely as the vibrating length.

Thus, if the length is halved, the pitch is doubled. If the length is made one-third, the pitch becomes three times as much, and so on.

Again, a string not only vibrates as a whole, but also has several simultaneous modes of sectional vibrations. Thus, the note emitted by a string is a complex one and is built up of several tissues or pure notes, which happen to be the harmonic upper partials of the fundamental or of the lowest note.

The degree of prominence of any one or more of the upper partials depends upon how, where and with what force the string is excited.

Timbre:—The third characteristic of a musical note is the 'Timbre' or Quality'.

It depends upon the nature of the vibration and is governed by the relative prominence of the upper partials.

The quality of the notes given by different instruments is not the same. As musical instruments very widely differ in their material and make and in the method of their excitation, there is a corresponding modification in the number of upper partials generated and in the degree of their prominence and hence in the quality of the note.

Again, the notes of stringed instruments, alone, are rich in over-tones which are true harmonic upper partials of the fundamental, whereas those of bells and instruments with stretched membranes or of other non-stringed instruments are usually not so. On this account, the note of a stringed instrument is richer in its musical quality than one of the same pitch given by the latter class of instruments; hence the preference given in music to stringed instruments.

In appreciating the quality of a musical note, the mechanism of the human ear reacts in a peculiar way.

The ear hears not only the original note but also a few of its harmonic upper partials. Further, combination notes are formed within the ear though they do not exist in the beginning. These combination notes together with the aural harmonics considerably modify the quality of the music heard. An interesting case is that of the early gramophone records. The horns, used in those days, weie very small and filtered out all bass from the music before it was recorded. By creating difference notes between the partials of the orignial notes, the ear could however restore much of the original bass to the music, when it was replayed.

The pitch of a musical note can be found out with the siren or by other methods, but in music, the actual number of vibrations is seldom wanted.

Music judges two notes only by their mutual relation or by the interval between them.

The interval is the ratio between their vibration numbers.

It is common experience that some intervals are consonant, while some are dissonant in effect.

The cause of dissonance between two notes is the generation of 'beats.'

Two notes of different frequencies create in a medium disturbances or waves of sound, such that these waves sometimes co-operate with and at times oppose each other, and the resultant disturbance is of an uneven character. This gives rise to the beats or the alternate throbbing sensation.

The number of beats given by two notes is equal to the difference in their frequencies.

Very slow beats are not very unpleasant, but as the frequency of the beats increases, so does the unpleasantness till it reaches a maximum. If the number of beats is still further increased, the unpleasantness gradually diminishes,—the periodic and rapid beats themselves giving the impression of a new or a secondary musical note.

The range over which the dissonance due to beats persists is different for different frequencies. It is small in the lower octaves and becomes greater with each higher octave. There is however an appreciable difference in the numerical values of the several dissonant ranges as obtained by different scientists. It, however, appears that the dissonance is a maximum when the interval between the beating notes is near about a semitone and becomes less as the interval increases and finally disappears when it amounts to about a minor Third.

We know that the note emitted by a stretched string is complex and contains, in addition to the prime note, its harmonic upper partials. These partials completely blend into the prime and are found to bear simple and determinate ratios towards it. Thus, beginning with the prime, the frequency ratios of the successive members of the harmonic upper partials' series may be represented by the series 1:2:3:4:5:6:7, etc. Here then is the key to determine the consonant or dissonant character of two notes, sounded together.

Thus, if the two notes have between themselves such simple ratios as 1:2, 2:3 etc. either no beats at all will be generated or if generated, they will give a note which will blend into the prime and enrich its quality.

Such exceptional cases are called consonances. There are however degrees of consonance, according to the degree of harmonic relationship between the notes. Thus, when one of the notes happens to be a direct upper partial of the other, the consonance is absolute or the most perfect. Such consonance, therefore, is of the first order. If however neither happens to be a direct harmonic partial of the other, but both of them are so related as to be harmonic partials of a third note serving as a common root, the consonance, though not absolute, is still perfect and belongs to the second order.

Again in the harmonic series, proper, the nearer harmonics are more consonant with the prime than the more distant ones.

Between themselves, the harmonic upper partials are mutually out of beating distance up to the seventh partial only. After that the consonance is toned down and leads towards dissonance and is finally replaced by dissonance when the sixteenth partial is passed. But these higher partials are so feeble that they are not at all audible and hence do not invite any further consideration.

Thus, it is clear that the nearer and more direct the harmonic relationship between two notes, the greater is the degree of consonance generated.

Naturally, between two notes there will be such relations as those of absolute consonance, perfect consonance, imperfect consonance, imperfect dissonance, or perfect dissonance, etc. It is not sufficient however to consider the case of the members of the upper harmonic series alone. For, though the early members of the harmonic series furnish between them all the

consonant intervals upon which music is based, yet in practice, it is impossible to restrict music to such high notes. The jump from the fundamental to the Octave is very great and requires the introduction of other consonant notes in this interval. The study of the harmonic series offers here a good precedent. In fact the consonant ratios, 2:3, 3:4, 4:5 etc. given by the first few harmonic partials may judiciously be used in introducing the required notes. Thus a set of notes or a chord, to be mutually consonant, must employ some one from these ratios for the intervals between its individual members. This simplifies the work of choosing consonant chords.

To return to our point, in pratical music, it is not enough to take into consideration, the relation between two notes only, inasmuch as melody or harmony invariably consists of more notes than two. Thus there would be chords of three, four or more notes. A chord however usually means a chord of three notes; for with the help of two such chords it is possible to derive chords with four or more notes. The two fundamental chords are known as the Major Chord and the Minor Chord respectively and form the key-stone of the Western system of music. Thus three notes which have the vibration ratios 4: 5: 6 form the Major Chord, while the ratios for the Minor Chord are 10 : 12 : 15.

Indian Music however does not directly employ either of these Chords but brings out the relationship between the notes by referring them to the constant accompaniment of a drone which serves as the Tonic Chord of all music, sung or played.

CHAPTER III

The Evolution of the Musical Scale

As already explained in the last chapter, consonant intervals make the passage from one note to another perfectly smooth and musical. Consonances have, therefore, always played a great part in all systems of music. It is true that to widen the range of choice and to put greater vigour and strength in the expression of the ideas, musicians do use, in addition, dissonant notes also, but then, such notes are not allowed to last too long and at last are invariably resolved into a consonance.

A musical scale is a collection of such artistic steps, leading from the fundamental to its Octave. As the physical significance of the different consonances and dissonances was not at first truly known, it took a long time before scales began to be constructed on really rational lines, as we now understand them.

The evolution of the scales has a great history behind it and its study simplifies the understanding of our modern scales and of many other practices connected with their construction. We shall therefore briefly trace this evolution, here.

To begin with, in the music of all nations, two unfailing characteristics are found; rhythmic movement and procedure by determinate degrees. To determine these degrees accurately is to construct a musical scale. From our knowledge of the harmonic series, we know that consonance and a simple law of formation supply between themselves the key to the rational construction

of a musical scale. But this knowledge of the harmonic series was the product of the later centuries, the consonant intervals known in the olden days, being only the Octave and the Fifth. As the Octave was a mere repetition of the prime, the Fifth alone was known to be a distinctly different yet a perfectly consonant interval. So, the early artists used to get additional notes, by taking the direct or inverse fifth of the notes already known to them. On the European side, it was the famous Greek scientist Pythagoras who first constructed the whole diatonic scale from the following 'series of Fifths.'

$$F \pm C \pm G \pm D \pm A \pm E \pm B$$

Arranged as the successive degrees of a scale the series may be written as:—C D E F G A B c.
with the ratios:— $1, \frac{9}{8}, \frac{81}{64}, \frac{4}{3}, \frac{3}{2}, \frac{27}{16}, \frac{243}{128}, 2,$
towards the key note or fundamental C.

The scale with intervals between the successive degrees might be written as :—

C D E F G A B c

$\frac{9}{8}, \frac{9}{8}, \frac{256}{243}, \frac{9}{8}, \frac{9}{8}, \frac{9}{8}, \frac{256}{243},$

Here, though the law of formation of the scale is very simple, the individual notes have, nevertheless, an origin very distant from the fundamental note and some of them indeed bear extremely complex ratios towards it. The interval $\frac{256}{243}$, repeating twice in the scale, is not at all simple. Hence the Pythagorean scale of Fifths is essentially non-harmonic in its character.

Further, in order to increase the musical resources, the ancient Greeks, like the Hindus, used to derive by

transposition six new scales, by making each of the remaining six degrees of the scale of Fifths, a fresh point of start for each successive scale.

The Pythagorean scale, as it was, could not satisfy the requirements of harmony and also fell short of the requirements of melody even of those days. The scale of pure Fifths, therefore, had its own day, but as time rolled on, had to give way to better ones. Another disadvantage of the scale of Fifths was, that on account of unequal and complex intervals, transposition without introducing large errors was not possible. This was true of the derived scales also. So, it was thought advisable to distribute the interval between the prime note and its Octave, equally among twelve notes. This is the Tempered Scale, so named, because it tempers or slightly alters the character of the notes of the ideal scale. The successive notes of the Tempered Scale form a perfect Geometrical Progression and are separated from their neighbours by the same common interval—the mean semi-tone. The Tempered Scale has a simple law of formation and offers a special facility, to fixed-toned instruments, of change of base at will, without changing the intermediate intervals. But, with the exception of the fundamental and the Octave, no other notes of the Tempered Scale are truly consonant and the melodies given by these are never perfect—much less perfect are the harmonies. As the music played to equal temperament is bound to be always a little out of tune, it soon becomes insipid.

In Indian music also, one octave used to be divided into twenty-two Śruti-s or microtonal intervals. Bharata expounds the whole Śruti-theory in about ten lines and Śārṅgadeva describes it in about fourteen

curt couplets. The literal interpretation of these passages leads some to think that the Śruti intervals must be all equal and uniform. Accordingly, the Śruti scale would be a tempered scale, having twenty-two instead of twelve equal intervals in one octave. As the distribution happens to be made among about double the number of notes, the error is bound to be smaller than that in the Tempered Scale. Hence the principal degrees of the Śruti-scale are a nearer approach to the notes of the ideally harmonic scale. Being a tempered scale, however, it has the same drawbacks as the Tempered scale of the West and cannot therefore take the place of an ideally perfect scale.

The Śruti interval may be easily calculated in the following manner. Let r be the common interval between the successive Śrutis of the Śruti-scale. Then the interval between the fundamental and the Octave is made up by twenty-two intermediate Śrutis or common intervals.

Thus, Octave/Fundamental $= {}^2/_1 = r^{22}$.

$$\therefore \quad r = \text{one Śruti} = 2^{\frac{1}{22}}.$$

Thus, if we want to find the number of Śrutis in a given interval and if x be taken as that number, then x is given by the equation

$$2^{\frac{x}{22}} = \text{The given interval (a Fifth, Fourth, etc.)}$$

The following table gives a comparison of the calculated number of Śrutis, making up the different intervals, with the number as given by the ancient Indian books on music and clearly shows where and how

the Sruti-scale differs from the mathematically expected scale.

Interval	Mathematically derived value of x (the no. of Śrutis) in the interval	Values assigned by the ancient Indian writers
Octave ...	22	22
Fifth ...	12·86	13
Fourth ...	9·14	9
Major Third ...	7·08	7
Minor Third ...	5·78	6
Major Tone ...	3·72	4
Minor Tone ...	3·36	3
Just Semitone ...	2·06	2

At this stage, it is desirable to know the other side of the Śruti-scale-controversy, which has provided the bone of contention for ages and has set one great mar against another even to this day.

Both Bharata and Sārṅgadeva assigned a proper name to each Sruti, and both put them into five broad Jātīs or classes[1]. It is on account of this classification of Srutīs that some critics think that with Bharata or Sārṅgadeva, all Srutīs were not equal and that there were sharps and double sharps, flats and double flats even among the Srutīs, the middle one being the normal interval. Nobody who cares to read

these old books can deny the grouping of the Srutis in five classes. The real disagreement, however, is about assigning a meaning to the names used for these classes. Whether these names have some significance other than being a sharp or a flat is questionable at this distant date and for want of any other evidence, internal or otherwise, it is difficult to decide either way.

A fairly good approach to the Sruti-scale is, however, not above the comprehension of modern students of music. Thus, it was a custom with Bharata and other ancient writers on music to mention their basic scales or Grāmas first in an empirical manner. These were the Ṣadja, Madhyama and the Gāndhāra Grāmas respectively. According to them the Gāndhāra Grāma is meant for the celestial beings and owing to their limited aural and vocal capacity, mortals are unfit to handle it. Human beings could therefore use the remaining two viz. the Ṣadja and the Madhyama Grāmas. Their scales as given by them are as follows :—

Sadja Grāma :— $C\ {}_3\ D\ {}_2\ E\flat\ {}_4\ F\ {}_4\ G\ {}_3\ A\ {}_2\ B\flat\ {}_4\ c$

Madhyama Grāma :— $C\ {}_3\ D\ {}_2\ E\flat\ {}_4\ F\ {}_3\ G'\ {}_4\ A\ {}_2\ B\flat\ {}_4\ c$

The Sruti intervals between the neighbouring notes are indicated by arithmetical numbers, and the total number of Srutis is twentytwo in both. As will be seen, the Madhyama Grāma differs from the Ṣadja Grāma only in its Fifth. The Fifth of the Ṣadja Grāma is a true Fifth while that of the Madhyama Grāma is one Śruti lower than it. What however is the measure of this interval of one Sruti or even of the other intervals indicated by two or three Śrutis? The ancient writers do not answer such questions directly but leave it to their readers to find out the Sruti values themselves, by tracing back the

steps (as in a converse theorem in Geometry) of an experiment[2], they describe. It consists in lowering the true Fifth of the Ṣadja Grāma by this supposed interval (of which the verification comes at the end of the experiment) of one Śruti four times successively and then in inspecting the resulting notes for any possible identification of them with any one of the original notes in the Ṣadja Grāma-scale.

Thus :—

One lowering brings down G to G′ by one Śruti.

Two lowerings bring down E_b to D and B_b to A by two Śrutis.

Three lowerings bring down D to C and A to G by three Śrutis, and

Four lowerings bring down F to E_b G to F and C to B_b by four Śrutis.

At no stage during the first three lowerings, any of the derived notes admit of any identification. After the fourth lowering, however, we get a clue to identify the two notes E_b and B_b as they are as much below F and C as F is below G, which latter as a result of the four lowerings now comes down to the level of the original F. But G and F are accurately known even from the very beginning, as they happen to be the direct and inverse Fifths of the fundamental note. Thus the interval of four Srutis turns out to be the interval between the notes F and G, which in our modern language is but a Major tone (9/8).

Thus, taking C to denote 240 vibrations per second. the portion of the Śruti scale that can be definitely ascertained now is :—

C	E_b	F	G	B_b	c.
240,	$284\frac{4}{9}$,	320,	360,	$426\frac{2}{3}$,	480.

E_b and B_b having been obtained by lowering the values of F and C by four Śrutis or by the interval of 9/8.

To obtain the notes D and A which remain still unknown, we must know the measure of two Śrutis. This is known from another clue to be found in the description of the Antara Gāndhāra or the Kākali Niṣāda as given by the ancient writers. They say that the "Antara Gāndhāra is reached either by raising E_b by two Śrutis or by lowering F by the same measure." Thus it is clear that the Antara Gāndhāra lies mid-way between E_b and F. Similarly, the Kākali Niṣāda lies mid-way between B_b and C. But the interval between E_b and F is already known to be four Śrutis (9/8) and half of this interval would be $\sqrt{9/8}$ or nearly 3/2·83. Thus a note of frequency 283, if raised by this interval would have 300 as its new frequency or the note E_b of frequency $284\frac{4}{9}$ when raised by this interval would turn out to be a note of frequency, a little over 300 or to be more accurate 301·6. This is however the Antara Gāndhāra and it is so very close to the natural or Harmonic Third that it can be hardly differentiated from it. The Harmonic Third happens to be a direct upper partial of the fundamental note of the Tamburā, to the drone of which all music has to be given. In fact the tuning of the Tamburā is not considered as perfect unless the Harmonic Third becomes distinctly audible in the drone. Thus, the Harmonic Gāndhāra has a fundamental precedence over the mathematically anticipated Antara Gāndhāra, which lies only within hair-breadth distance from it. There is no other consonant note in that extremely small region but the Harmonic Third and in trying to tune the

Antara Gāndhāra, the tuner is bound to select the point on the wire where the most consonant note is likely to be obtained. Another question is that would it become possibie, in practical music, to make such a discrimination in the tuning of an instrument with frets of width of at least a tenth of an inch and the finger-tip contact varying easily by an equal or even greater magnitude? Those, with some experience of tuning musical instruments, would grant how difficult it would be to make such a hair-splitting distinction, in which case the only conclusion that can be reasonably drawn from Bharata's statement would be that by Antara Gāndhāra he must have meant the most consonant note within that region. We must also remember that Bharata's approach to the problem is of the form of an actual experiment and is not based on paper calculations which can be pursued to any degree of smallness but which beyond a certain limit cease to bear any fruit in an actual experiment. By the Antara Gāndhāra, therefore, Bharata must have meant the Harmonic Third, in which case the interval of two Śrutis turns out to be the interval between the Harmonic Third and F, which is equal to 320/300 or 16/15.

A lowering by two Srutis would therefore mean the lowering of a note by this interval of 16/15 and if E_b ($284\frac{4}{9}$) is lowered by this interval of 16/15, it comes out to be $266\frac{2}{3}$, the exact figure obtained by lowering the Harmonic Third by the interval of four Srutis or by 9/8. This coincidence cannot be called as merely accidental, but it directly justifies our presumption that by Antara Gāndhāra, Bharata must have meant the Harmonic Third.

Similarly, A, being two Śrutis lower than B_b ($426\frac{2}{3}$), turns out to be $426\frac{2}{3} \div 16/15 = 400$.

Again D:C and A:G are three Śruti intervals, each, and come out to be $266\frac{2}{3} \div 240 = 10/9$ and $400 \div 360 = 10/9$. In both these cases, therefore, the three Śruti interval turns out to be 10/9.

The reader must have noted that each interval obtained so far was obtained in an independent manner from the clues supplied by Bharata and not from any one once obtained. Collecting all the intervals obtained at the different stages, we have :—

C–c = 22 Śrutis or the interval of 2/1
C–G = 13 Śrutis or the interval of 3/2
C–F = 9 Śrutis or the interval of 4/3
C–E = 7 Srutis or the interval of 5/4
$C–E_b$ = 5 Śrutis or the interval of 32/27
E_b-F, = F–G, = B_b–c, = 4 Śrutis or 9/8
C–D, = G—A, = 3 Śrutis or 10/9
D-E_b = A—B_b = 2 Śrutis or 16/15

From the intervals known before, the interval G′–G (one Śruti, from which our search has started) can be found out.

In the Ṣadja Grāma, G–A is three Śrutis 10/9 and in the Madhyama Grāma G′–A is four Śrutis (9/8). Thus G′–G is $9/8 \div 10/9 = 81/80$ and having known this once, the wh le Śruti theory becomes known.

The measure of one Sruti is however not the same throughout. Thus one Sruti-interval may be any one out of the following.

5 Śrutis ÷ 4 Srutis = $32/27 \div 9/8 = 256/243$
4 Śrutis ÷ 3 Śrutis = $9/8 \div 10/9 = 81/80$
3 Śrutis ÷ 2 Śrutis = $10/9 \div 16/15 = 25/24$.

the middle one being the smallest and the one in particular chosen by Bharata to signify the measure of the Pramāṇa Śruti.

Thus all the notes of the two Grāmas may now be rearranged and written as :—

Ṣadja Grāma :—	C	D	E_b	F	G	A	B_b	c
	240	$266\frac{2}{3}$,	$284\frac{4}{9}$,	320,	360,	405,	$426\frac{2}{3}$,	480
Madhyama	C	D	E_b	F	G′	A	B_b	c
Grāma.	240,	$266\frac{2}{3}$,	$284\frac{4}{9}$,	320,	$355\frac{5}{9}$,	400,	$426\frac{2}{3}$,	480

By shifting the tonic from one note to another of the Grāmic scales, seven different modal scales or Mūrchanās are obtained from each Grāma which together develop nineteen different variations of what are popularly known as the seven notes of the musical scale. These therefore appear to be the nineteen notes referred to by Śārṅgadeva in his Sangita Ratnākara as being the notes in one octave, from which two more drop down further, as notes which happen to be at an interval of one Śruti are dissonant and are therefore inadmissible in music. Thus there are twenty-two Śrutis but seventeen different musically useful sounds in one octave and these seventeen are classed under seven broad names indicating the seven notes of the basic scales.

The intelligent reader must have however seen that there is a small flaw in the argument viz. the rounding off of the mathematically obtained value of the Antara Gāndhāra to bring it down to that of the Harmonic Third. Where is the authority for this? To be honest, there is no direct authority for it, but as the Harmonic Third plays an important part in the basic harmony

of the 'Drone' of the Tamburā, it is quite a legitimate note of the Indian system and being more consonant than the anticipated Antara Gāndhāra, it is bound to receive precedence over the latter. A more plausible explanation is that the limitations of the instrument and the player leave no room for the theoretical error to peep in, and it thus disappears altogether in practical music. There is, however, no unanimity of opinion in the matter, possibly because our Pandits would never forgo their birthright to differ! On account of this *impasse* the Śruti-problem was virtually given up after Sāṛṅgadeva, though no-body had the courage to defy it openly. It was discussed by every author only as a matter of orthodox practice and if anything was left behind, it was really the ghost of the Śrutis! In more modern times, however, our contact with the West brought the sciences to our very door and gave us the laws of sound together with the magnificent structure of the Science of Western Music. This had its inevitable reactions on our set way of looking at things.

We shall now briefly survey the course of these reactions. Between two advanced systems of music, innumerable things are bound to be common, and parallels here and there could be conveniently pointed out. Consonances being consonances all the world over, it is no wonder if there is found a close similarity between certain Indian and Western scales. The incidental agreement—if any—may at best be taken as the inductive verification of what the ancient Indian Theorists meant, but cannot certainly be taken as a proof or solution of the Śruti-problem. But this is what some of the present-day exponents of Indian Music would want us to believe. They want to fasten the results of modern science upon the ancient writers, who must have been quite unaware of them. Like the pupil, who

knows the answer but not the method, they make themselves miserable by catching at this thing and that and by twisting and perverting the plain meaning of words. Their wish that the old ideas be granted as the correct and scientifically true ideas is certainly pious, but is not in keeping with the plain facts of history. The better way would have been to keep the mind open and have the frankness of correcting the old ideas, wherever necessary. This would have saved a lot of time and labour wasted fruitlessly till now. As an instance, it is funny to see how the ten lines of Bharata or fourteen couplets of Śārṅgadeva have been the source of unending discussions, which, length for length, may far outweigh the information of all the encyclopædias of the world put together!

But, as it was, even within the basic scale, various methods of execution were possible. Other scales, like the ancient modes, were generated by the fundamental scale and had equal claims to attention and stood on a level with the original scale. Thus both in Greece and in India, the modal scales also were frequently used.

In Europe, however, the requirements of harmonic music later on reacted in a peculiar manner on the construction of scales and as a result only one of the old tonal modes (the Major mode of today) remained unaltered, while the rest, after undergoing several modifications, fused into the so-called Minor mode. These are the two scales—the Major mode and the Minor mode, which form the backbone of the music of the West.

The closest and the simplest relationship of the tones is reached in the Major mode, as all its notes are but

constituents of the compound tone of the tonic or its Fifth, above or below.

The Major mode is really built up of three Major chords.

				3 ←		3 ←		3	
Notes.	C	D	E	F	G	A	B	c	(d)
Index No. of frequency.	24	27	30	32	36	40	45	48	54
	1 →		1 →		1				
					2 →		2 →		2

The first Major chord is indicated by 1, the second by 2 and the last by 3. The arrow supplied to the figures indicates the point of start and direction of application in each case. Similarly, the Minor scale consists of three Minor chords.

				3 ←		3 ←		3	
Notes.	C	D	E♭	F	G	A♭	B♭	c	(d)
Index No. of frequency.	24	27	28·8	32	36	38·4	43·2	48	54
	1 →		1 →		1				
					2 →		2 →		2

It should be remembered that in both these scales, the principle of tonality is fully observed, as all the tones are connected by a simple relationship to the chief note, the tonic, as also between themselves.

Similarly, if a particular scale is put forward as the Suddha or the natural scale of Indian Music, one ought to show that such a scale is the result of truly scientific practices and does not rest on mere caprice The

Sruti-scale, as put forward by its present-day exponents, cannot satisfy this expectation, as one is not sure if the Veeṇā of today is exactly like the Veeṇā of the ancient days. Even if it were so, the other difficulty is that the passages dealing with the Śruti-scale lend themselves to various interpretations and hence the result is not conclusive. Further, the mere measurement of the position of frets on a Veeṇa or Sitar cannot completely determine the nature of the scale, as the Veeṇa-notes are seldom the free or open notes of the string but are invariably such as are obtained by slight variations in pressure, effected by 'Meend' or a push here and a stretch there.

In these circumstances, some are tempted to adopt the Major Scale of the West directly as the basic scale of Indian Music. But such a step is too bold and moreover unnecessary, as it is possible to trace the evolution of the scales of Indian Music, firstly by a critical analysis of the popular or folk forms of recitation and song in general and secondly, by the consideration of a simple but a very important practice common to both the ancient and modern systems of Indian music. If we liken music to a flowering plant, the folk forms represent its roots and stem, surrounded by mud and water, while the classical forms represent its branches, clad in rich green robes and crowned with beautiful fragrant flowers dancing to the rhythm of the fresh breeze. Folk music is a veritable repository of a variety of forms ushered in by tradition or by other social or cultural causes, but essentially smells rather of the earth. Classical music adopts what is best in Folk music and by giving it a new orientation of tone and rhythm, brings some musical law within easy and conscious understanding of its listeners. It thus transforms the material world into an ideal world

in which both joy and sorrow become equally beautiful. In order to understand the scales and æsthetic processes of classical music, it is therefore necessary to take stock of the progress made in this direction by folk music and of the standards set and hardened by tradition in the preceding stage.

CHAPTER IV

From Speech and Recitation to Folk-Music and From Folk-Music to the Classical Stage.

So far, we have concerned ourselves only with the Physics of music. We may however do well to remind ourselves at this stage that tradition, inheritance and association also have always played an important part in the development of all known systems of music. Incidentally, the Rāgas, the melodies and the various methods of progression of Indian music are the outcome of the efforts of many generations and what we call classical music to-day is the very cream of such an age-long musical activity. It will now be our aim to investigate the characteristic features of each stage of the progress of the popular or folk-forms of musical expression so as to have a consistent and connected view of the evolution of Indian Music as a whole.

Folk-Music:—Folk-music is the music of the masses. When a layman sings a song, he knows nothing about the intervals used in it or about its rhythmic structure. To him the intervals and the rhythm occur naturally. But then, folk-music is not the music of a savage. On the other hand, it is a living and integral part of any musical culture, worth the name. Through the force of habit and the tendency towards imitation and unconscious adaptation to the spirit of the particular times, folk-music could preserve its old treasures in tact and further enrich them by inventing new forms side by side with the great developments in classical music.

Folk-music has its own charms and even among the illiterate masses, a large number of people are found to possess a fine ear for such music and a rare facility of performance, too. Simple in form but rich in meaning, its appeal is instantaneous and almost infectious. The study of folk-music claims one's attention all the more, because it has many things in common with the classical form of music. Thus, in many of the classical Rāgas, one is often reminded of some popular tune or folk-song. Similarly, the classical Rāgas of yesterday are often found reflected in some folk-tunes of to-day. It should, however, be remembered that in spite of the similarity of some tunes arising from an unconscious process of 'give and take' between the two types of music, folk-music never gives the impression of any Rāga or classical mode as such, but bears its own stamp which eludes all the established criteria of the Rāga-system of classical music.

This is due to the fundamental difference between the processes of evolution of the two types of music. In fact, they are just the reverse of each other. Folk-music does not employ any musical device as the result of conscious knowledge or the study of the science of music. It does not seek its theme or emotional content from music, but starts with one of its own choice, in the form of a poetic piece or song and music serves as but a guide or groove for the overflow of the poetic emotion. Classical music, on the other hand, has to adopt the melodic law and order of the chosen Rāga and then must make suitable arrangements and combinations of tone and rhythm so as to recreate the essence of the emotion associated with the chosen Rāga. Thus, its emotional content springs from music itself and is not sought out of any poetic or extraneous means. It has thus to achieve the uphill task of making as near an approach to the

intended emotion as possible, and it therefore needs great care, precision, fore-thought and above all a deep understanding of the several stages of the appearance and growth of emotion. The music of folk-songs is subservient to their poetic theme and has to prune its notes and melodies on and off to suit its needs. Thus it is that the notes of folk-music are often cramped or extended a little away from the true notes and give gross melodies[1]. The resulting incongruities and chinks in the music are, however, cemented together by the poetic sentiment that spurts through them. The rough musical contour is thus pushed off in the back-ground under the polish imparted to it by poetry. Thus, when a person is humming or whistling a tune, he is often found so much absorbed in his music that, for a while, he forgets himself as well as his whereabouts, though in his more conscious moments, he would himself have called such music as neither good nor even tolerable. The glides, the turns and the twists and the rise and fall of music, however, serve as a true index of the mood or the subjective experience of the singer. He loves his music better than the best music he might ever have heard, not because it is good music, but because it is his music and nothing else would fit into his mood half-so-completely. The crudeness of the music is therefore wiped off by the inherent intensity of the mood and by his complete identification with it. Folk-songs, in which the mood is weak or self-identification is lacking, fail to make any appeal, because in the absence of these, the incongruities and the defects of music at once become too bold and unpleasant.

Bearing in mind this fundamental difference between the processes of folk and classical music, we will now trace the evolution of popular or folk-music, proper.

The Beginnings of Music

Music consists of artistic expression in tone and time or rhythm, and every form of natural or human activity may have something to contribute towards its making. In fact, every action implies some form of motion and is usually accompanied by some kind of sound. Thus music may have its roots in the simplest of unintentional and impersonal activity such as the blowing of the breeze, and the rustling of the leaves, the surging of the billows and the thundering of the clouds or the murmuring of the brook. The result may not be what we call music to-day, but is certainly musical. The cries of some birds and beasts are much more musical than the music of the elements and must therefore have attracted the attention of the primitive man. But it should be remembered that even birds and beasts have undergone a process of evolution. The beginnings of human music are therefore really rooted in the evolution of the human ear and the vocal organs and not in the supposed imitation of the cries of birds and beasts, as they are found to-day. Even speech was not the product of a day. In the absence of speech, man's first language must have been one of automatic exclamations or mechanical sounds and it must have cost him an experience of several generations to produce even such notes as the cries of birds and beasts either orally or mechanically. The earliest forms of acoustic expression must have been, therefore, of the nature of rough and ready sounds, produced vocally or mechanically. At this stage, a human being must have been in no way superior to birds and beasts. The music of the birds and the beasts has however mostly remained the same. The lions roar, the sheep bleat or the peacocks cry to-day just as in the days of our forefathers. Human speech has however been developed by

the inherent urge in mankind for further development and is continually enriched with growing experience, and this is equally true of music too. In so far as the child repeats the history of the race, some of these stages of the evolution of speech and music are distinctly discernible in its progress. In short, commencing from simple exclamations and mechanical sounds, speech as employed in simple narration and dialogue, chanting, recitation of verses, folk-songs and classical songs appear to be the significant stages in the growth of vocal expression and musical form. These forms evidently fall into two groups; the one not requiring any musical accompaniment and the other requiring it as a matter of necessity. Thus speech in any of its forms does not require any accompaniment, chanting, recitation of verses, and simple folk-songs seldom need any, and even when accompanied are poetic rather than musical in effect. To the other class, which necessarily requires accompaniment, belong the advanced folk-songs, songs for dances and those of the classical type.

We shall bestow our attention first on the types not requiring any accompaniment, in the order of their gradual evolution.

Exclamations

An exclamation is the spontaneous or automatic self-expression in sound of the instinct which is at its bottom. Such exclamations are common to all animals including man. They are instantaneous and are not the result of any previous contemplation and are fully suggestive of the root instinct. Their appeal is direct and has all the bluntness or force of life. The relationship between the instinct and the corresponding exclamatory sound is present here in its true character, untempered by the

conventions or symbolism either of language or of any considered action. The presence of the exclamatory sound is suggestive of the presence or the awakening of the instinct at its root, and vice versa.

Fear, anger, disgust, joy, self-assertion, submission, tenderness, etc. are some of the common instincts which can be easily recognised from the exclamatory sound which accompanies them. Thus powerful and sustained sounds indicate self-assertion or conquest, cheerful bubbling sounds joy or satisfaction, gruff and cutting sounds anger or displeasure, faltering or shaky and trembling sounds nervousness or fear, and so on. Such exclamations therefore furnish a basic material for a primary approach to the æsthetics of self-expression in sound, both ordinary and musical.

Speech.

In every day speech musical intervals recur involuntarily, although the singing tone of the voice is concealed under the noises which characterise the speech sounds and the speech is not held firmly but is frequently allowed to glide up and down. The alterations of pitch are more numerous and complicated, if the speech is meant for the public. In closing an affirmative sentence the voice falls from the middle pitch by a Fourth, while it rises by a Fifth above in closing a sentence which is interrogative in nature. The small musical effect of speech is spoiled by the rough noises which accompany the individual letters forming the words of the speech. To counteract the rough effect of such hard sounds and to restore a sense of ease and completeness, a speaker introduces cadences in his speech, although unconsciously. This is why cadences are markedly prominent in

such languages as Kannada in which hard consonants occur on a very large scale. Thus, in everyday conversation or speech in that language, a singsong, better a semi-musical tone asserts itself prominently at the closing of a sentence. This is true even of the Sanskrit language in which conjunct consonants occur in many of its words. In the pronunciation of words with conjunct consonants, the vowels are invariably lengthened, primarily for making the syllables perfectly clear and audible, yet, secondarily for reducing the harsh character of the speech to a minimum. The lengthening effect is particularly noticeable at the closing of a sentence, as such closing is tantamount to the completion of a statement. The sense of ease or completion is secured by what is called the introduction of a cadence, when the voice again falls down to the normal tone-level. But in a major portion of everyday speech, a certain middle level or pitch is maintained and the alterations in it are neither numerous nor very large.

Dialogue

A dialogue, however, is full of inflections and exclamatory sounds and undergoes numerous alterations in the pitch and the quality of its tone. A question means raising the tone, while an answer means bringing it down to the normal level. When one question is answered by another cross-question, the latter begins with still greater stress and pitch of tone. In a dialogue, the tone of the speech is fully coloured by the interplay of the feelings and emotions of the conversing parties and employs variations suggestive of the mood and mental reactions of the speakers. Thus a dialogue essentially differs from ordinary speech. It is speech in action and is therefore effectively employed in dramatic plays. This then is the second stage which further

defines the relationship between sound and the suggested state of mind or the sentiment of the speaker. In this connection it will be interesting to mention it here that the characteristic difference between speech and dialogue forms is strongly in evidence even in the inarticulate language and conversation of one bird with another of its species and enables one to conclude whether they are just sporting, fighting or making love or are in normal mood.

Prose and Poetry.

The distinction between prose and poetry is inherently perceived and appreciated by all. In prose, rhythm in the musical sense is absent, since there is no restriction as to the length of each sentence or clause or about the places of stress and pause. The syntax of prose is also rigid and leaves no choice for any synesis or a happy arrangement of the several parts of speech, nor is there any attempt made of introducing rhymes. Metre and rhythm are, however, the fundamentals of poetic form. They impose on verse a fixed length and order of long and short vowels and thus create a set type of vowel-music, running into similar and equal lines, with rhymes and cadences at the close. All these make verse more dignified and better balanced than prose and usher into it the element of rhythm. The syntax of poetry being elastic, it can give prominence of both tone and position to any desired portion of the composition and can thus effect greater symmetry and coherence between its several parts. Even in prose, there is a style known as 'Curṇa' which borders between prose and poetry. Pieces composed in this style are known as 'Curṇikās.'[2] A 'Curṇa' means a finely powdered substance, smooth and soft to the feel A prose without hard consonants and rich with alliterations and rhymes at the close of the

successive clauses and sentences and delivered or recited in the manner of a poem is certainly more soft and smooth than ordinary prose and forms the substance of a 'Curṇikā'. The bards and the heralds (the Bhāṭas and the Cāraṇas) usually employed this style in proclaiming on ceremonial occasions the high traditions and the tenets of their royal-masters-the kings. So also do the devotees in paying homage to the saints or God. In short, the rendering of prose into poetry means the union or adaptation of happy words to orderly and rhythmic periods or in other words to metrical forms, with such artistic devices as periodic rests or pauses, alliterations, rhymes and cadences. It is within the limits of such smooth and melodious intonation and a plastic syntax teeming in alliteration, rhymes and cadences that the emotional shades of the poetic content must be vocally expressed by the reciter or understood or construed by the listener.

Automatic self-expression in the form of rough and ready sounds or exclamations may at once suggest the kind of feeling and the emotional reactions of a person but is totally poor in depicting the varying shades of the growth and fineness of the emotion. They are therefore only too gross and blunt artistically. In prose, tonal variations or qualities coupled with the meaning of words do suggest the feeling with its associative emotions clearly and can further delineate their rise and fall to a certain extent. In the absence of rhythm, the finer shades of the growth and the delicacy of emotion are however denied to prose, but are within easy reach of poetry. In the case of music, the innumerable ways of varying the shades and quality of consonances and dissonances and the subtle manipulation and variety of its rhythm infinitely widen its range of emotional expression, every shade of which is not without an equally fine

or expressive counterpart or replica of it, in music. Thus, without forfeiting the power of suggestion, each higher form of music effects a closer and finer approach to the mechanism and essence of the human emotions and its culmination takes place in the subtle and almost mysterious working of music, proper.

To return to our point, the metrical compositions happen to be the most ancient and authentic types of musical form and may therefore be studied in the order of their antiquity.

The Vedic Chant.

The Vedic Hymns are the living and authentic examples of the world's most ancient and sacred literature and music, as well. They are composed in what are called the Chandas or the Vedic metres. A Chandas has four similar lines with a fixed number of syllables, whether long or short. It is thus the number of syllables and not the quantity of vowels that determines the length of a line. The stanzas or the Ṛks forming a hymn used to be chanted or sung according to the need of the occasion and there were three different ways of doing it.[3]

The first or the Arcika way of chanting employs only one note for all the syllables and it is literally monotonous. It is used for prayer, in private, or for scholastic purposes such as revising, memorising, or for learning the text of the Ṛks by rote. The second way of chanting is called the Gāthika or the musical way, musical in the sense that it employs a second note in addition to the base note. The Sāmika style is the third and the most common way of chanting Vedic hymns. It employs the three notes viz. the fundamental, and the notes just a major tone above and below it. The Sāmika style is

employed for all formal or public recitations, individual or collective. Since collective recitation requires unity of accurate pronunciation and synchronous delivery, the Sāmika way had to be a permanently set way of chanting. In fact, it may be justly named as the uniform style of delivery' of Vedic chant, since it is one and the same throughout India, in spite of provincial differences of language and customs. The grammatical rules and the other details concerning Vedic chant are given at great length in the ancient Pratiśakhya and Sikṣā books. For our purpose, it will be enough to give here a brief summary of the findings concerning the music of the Vedic chant.

Vedic chant employs three notes only. They are Ni (B_b), Sa (C) and Re (D). The chant always begins with the basic note C corresponding to the sound of an Udātta syllable. If the opening syllable happens to be an Anudātta one, the syllable 'Om', which is always Udātta, is borrowed at the beginning of the chant and does the work of the required Udātta syllable. The notes occur in their natural sequence and are taken consecutively i. e. without dropping the intermediate note. Each syllable forms a unit of utterance and together their chanting reminds one of the 'Nom Thom' (or the Ālāpa syllables) exercises. In fact, they form a musical phrase which is like an Ālāpa of a famous classical Rāga, the Darbāri Kānadā, Some such sequence as 'Sā, Ni Sā, Ni Sā Re; Sā, Ni, Sā,' forms the nucleus of the phrase and repeats itself as a group in the chanting of all the Chandas. Whatever the Chandas, the chanting sounds all alike and does not give the least inkling about the form or the length of the Chandas-measure, actually employed. Thus the rhythm of the Vedic chant is not of the formal (meaning 'suggestive of the form') type but

is of the primary or the essential kind. Last, but not the least, the chant is a set type of recitation, and is, like all sacred literature, entirely immune from personal colouring and variations.

An interesting practice connected with the chant is that of recitation-parties or contests, in which the chant is given alternately by two groups of reciters. After each turn, the loudness, the pitch and also the tempo are gradually increased. Each group ends its turn by placing the tone a little higher, which the other group picks up as its basic note for its new turn and the chant thus heads on towards a climax.[4] When one round finishes the next one begins, again with the normal tone and the climax is again reached as before. The point to be noted, however, is that in spite of higher tone-level for every new turn, the melody remains the same, only that it is repeated at higher and higher levels. Another interesting practice connected with the recitation parties is that, at times, both the groups chant different Ṛks at one and the same time and thus create a primary vocal harmony or descant, one can call it anything, for it gives one the impression of either. The mass of the collective tone and the repetition of the rhythmic nucleus with ever-increasing loudness, pitch and tempo more than counter-balance the monotony and enrapture one with the majesty of Vedic chant.

Other Scholastic Ways of Chanting.

In addition to the plain chant, there are some very highly scholastic ways of chanting the Vedic texts. They are known as the Pada, Krama, Jaṭā and the Ghana ways of chanting. Of these the musical aspect is almost the same as in plain chant with this difference that the clauses or even Padas are recited again and again

according to the patterns laid down in the code for chanting. Accordingly, each Pada is chanted in a detached manner or a group of them is repeated once, twice or more times with repetition of the preceding and succeeding clauses, according to these patterns. On account of such fixed order or sequence, coherence and symmetry between the several parts of the chant become evident and contribute to it what may be called a 'musical form.' The repetition of the Padas and the different clauses of the Chandas, according to chosen patterns has evidently given rise to the different metres later on known as the 'Gaṇa Vṛttas,' 'Mātrā Vṛttas' 'Daṇḍaka' 'Dodhaka' 'Totaka' and other forms of verse, which even now serve as models for innovating new metres and time-measures to suit our present-day needs.

Sāma-Gāna.[5]

We now give a brief summary of the musical practices as found in the famous style of singing Sāmans or Sāma-Gāna. The Sāma Veda has no separate text. The Ṛks themselves supply it. But the Sāma-Veda sets the Ṛks to musical form for the purposes of Sāma-Gāna and in doing so, the original text is changed and sometimes distorted beyond recognition. Meaningless extra syllables such as 'How, Him, Hum' etc, are borrowed,[6] some of the vowels are elongated, or are altogether replaced by new ones, and even the old words give place to new ones. The Sāma-Gāna thus takes all kinds of liberties with the text such as those the present-day musicians are in the habit of taking. Sāma-Gāna is, however, a collective affair and like the chant is also of a set type, perfectly immune from any personal colouring or alterations.

The following is a brief summary of the principal findings about the singing of the Sāmans :—

(1) The scale of Sāma-Gāna is :— C, D, E_b, F, G, A, c.

(2) The note A (Dha) is sometimes omitted and is then replaced by the note B_b (Ni_b), and vice versa.

(3) The notes are taken strictly in their natural sequence, i. e. without jumping over the neighbouring notes.

(4) They figure in small groups of three or four notes and seldom extend beyond the range of one tetrachord at a time.

(5) No extra chromatic note is employed anywhere.

(6) The Stobha letters, 'Hā, How, Him, Hum,' which are borrowed, are sung to the level of the base note and thus supply the feeling for a sustained tonic.

(7) The music is permanently set without any room for any personal colouring or distortion.[5]

(8) The music of one and all the Sāmans of any one branch of it sounds alike, whatever be their meaning content or the Chandas of their metre. The tune does not give the least indication either of the Chandas employed or of any time-measure. The rhythm of Sāma-Gāna is therefore of the essential and not of the formal (meaning, suggestive of the form) type.

(9) Pious Brāhmaṇas refuse to take any accompaniment for Sāma-Gāna, though some modern scholars have begun to advocate the use of it.

(10) Sāma-Gāna does not even once give the impression of any Rāga as such, but sounds like some tunes similar to those of some metres and simple folk-songs.

A close examination of the notes of the tunes employed either by Chant or by Sāma-Gāna clearly reveals that both these types employ the Minor Seventh and the Major Second for the notes Ni_b and Re. The so-called Suddha scale of either the Northern or the Southern system of music takes but one of these notes and not both simultaneously. Now, the Major Second is a legitimate note of the Śuddha scale of the Northern system, but the Minor Seventh is not. In the Southern system, the reverse is the case, since the Major Second is a note foreign to its Śuddha scale, whereas the Minor Seventh is one of its legitimate notes. Both these systems, however, claim that their origin is in the Vedic music, but neither of them appears to have retained the old traditions in tact or unchanged. The truth probably is that art-music drew upon the older traditions and recreated out of them, its own scales and form in its own way and according to its special needs and exigencies.

As previously stated, the chant and particularly the other scholastic ways of chanting a Ṛk with various sequences of its clauses and Padas have given birth to the Gaṇa and Mātrā or Jāti Vṛttas of Sanskrit and the other allied languages. The Gaṇa-Vṛttas[7] have a fixed kind of vowel-music but the rhythm of each line considered separately is irregular. Considered together there is however perfect symmetry and balance between the four lines

forming the two couplets with a perfect rhyme at the close. The Jāti Vṛttas are more elastic in their sequence which is regulated by the quantity and not by the order of long and short vowels figuring in it. They therefore show a distinct advance in their rhythmic structure and here the poetic and the musical rhythms fully agree with each other. Barring such songs as are deliberately composed in a particular Rāga, the music of all popular songs, ancient or modern, including even the film-songs[6] of to-day, falls in the category of the Jāti-Vṛttas. A Jāti-Vṛtta has a simple musical phrase as its nucleus, which is repeated over again on one and the same plane. A small deviation occurs in the Antarā which, however, is neither bold nor different in its pattern from the main phrase. Instead of keeping the musical nucleus bound to one and the same level, if it is projected and spread over gradually ascending or descending levels, the music of the Jāti-Vṛttas ceases to be monotonous and develops a musical form both rich and wide in its appeal. This is why popular songs usually run into a number of stanzas. The Haridāsas often employ this device, and with great advantage too, in quickening the appeal of a simple Bhajan as 'Rāma, Rāma, Rāma, Rāma, Sitārāma, Sitārāma, by asking the whole congregation to recite it and further by transferring it to gradually higher pitch-levels and by quickening the tempo.

Thus, we have traced the characteristic features of the different forms of self-expression in sound and also of popular music culminating in the Jāti-Vṛttas[7] which have served as the models for the songs of classical music. In short, with a long ancient tradition and intuition as its sole directive forces, the unconscious music of the popular forms has reached to the level of the conscious music of the classical type and so the musical details as found in

the analysis of the folk forms as a group are bound tc help us in our constructive view of Indian music as a whole and may indirectly throw some light on the practices of classical music to be considered in a later chapter.

Some of the findings about folk-music, as it obtains in Mahārāṣhtra, were published by the author as early as 1935. Since the publication of the first edition of this book, a research grant from the University of Bombay enabled him to conduct the investigation still further and to visit Madras (the centre of South Indian Music) and Baroda for the purposes of ascertaining how far these findings were true of the popular or folk-music of other provinces in India.

A demonstration was given before the Experts' Committee of the Music Conference held by the Music Academy, at Madras, and the questionnaire issued in this respect was placed before the Committee for its consideration. From the answers received to the questionnaire at Madras and elsewhere, it may safely be said that the folk-music of these provinces does not differ in its practices from that of Mahārāṣhtra. In each case indigenous reciters were requested to recite the different pieces of poetry and folk-songs in the most natural or unsophisticated manner. The results were equally true in the case of specimens in the languages of other provinces also.

An independent corroboration from an unknown quarter came as a pleasant surprise. It came from Mr. A.G. Chagalā[8] of Karachi who says 'Your twenty observations regarding the folk-music of Mahārāṣhtra tally with my own regarding the folk-music of Sind and the Northwest, except that I find that the extreme range of the folk-melodies in this territory is somewhat wider, pre-

cisely a Minor Third above the Octave.' It may therefore be said that at least in the folk-music of the different provinces, there has been a complete unity of practices, though those of classical music of the North and the South widely differ from each other.

The major findings of this study are briefly given in the following pages.

1 In folk-music, the recitation or music is always coupled to the time-span of the poetic words making up the metre and there are no tonal extensions, as such.

2 The melody, though flowing on freely, is often pivoted on a particular note or group of notes and circles round such a note or notes.

3 The melodies of folk-music are very simple and employ a few notes at a time. They seldom move in two tetrachords at a stretch.

4 In the elementary forms, folk-music does not employ a drone, yet there is a level always maintained, to which the music invariably returns, so much so, that not for a moment is the sense of this level or tonic either lost or weakened.

5 The *maximum* number of notes employed in folk-music is *nine*. These consist of the seven consonant notes viz. those of the Major Scale and two more viz. the Minor Third and Minor Seventh.

6 The minor forms do not however occur as frequently as the major ones.

7 Sometimes the *enharmonic* forms of the same note occur—the higher form occurring in the ascent and the lower one in the descent.

8 Prayer or other religious hymns or songs, when chanted alone to oneself, employ only one note—the tonic—and are literally monotonous.

9 If recited in public, they employ one or two more neighbouring notes, the whole recitation never extending beyond one tetrachord.

10 For a very big audience the voice is often raised by a Fourth or Fifth, but even then the melody seldom extends beyond one tetrachord at a stretch.

11 The alternative way of recitation for a big audience is to begin on the higher Octave and proceed by a descending melodic progression.

12 In the longer metres and songs the melody has to be necessarily lengthened in duration and hence it embraces notes from two tetrachords. But there is usually an imitation in one tetrachord of what occurs in the other.

13 The melody is so simple yet sure that the intervals and their sequence is correctly observed in a natural way and needs no previous thought or special effort. Students of classical music know how difficult it is to take a leap of a just Fourth or Fifth, but in Folk-music such leaps are correctly taken even by a lay reciter, without any conscious preparation or effort.

14 A piece of poetry or a song always contains an even number of lines or divisions. At the end of every odd line, there is felt a sense of incompleteness; the sense of completeness returning only at the end of the next even line.

15 This incompleteness is of the character of a query or interrogation. Its immediate cause is that the odd line does not end on the tonic, but ends on a harmonically more distant note, usually the next higher note—the Major Second. So, a deliberate shift from the tonic, at a psychological moment when it is strongly in demand, causes perturbation or gives a shock, which we call incompleteness.

At the close of the next even line, however, there is a well-planned return to the tonic and this at once restores ease and the sense of completeness.

16 No single note receives any individual prominence either by way of duration or stress. The notes are mere counterpoints—as it were—to the order of long and short syllables which make the metre. As such, the notes of Folk-music are never of the sustained type and hence scarcely afford an opportunity to bring out the beauties of any harmonic relationship of the several notes, either towards the tonic or even between themselves.

17 The nine notes of Folk-music are almost the same as the nine principal consonances, which chiefly figure in fixing up the tonality of classical music. (See—Chapter V). Thus, it appears that even in the folk stage, there were no cultural reactions, which opposed the formation of a truly natural and hence of a harmonic scale.

18 In the more strict forms of the metres—viz. the Gaṇa—Vṛttas, rhythm is regulated by particular Gaṇas or groups of syllables and

hence by a particular order and quantity of syllables. In the lighter forms however, i. e. in the Mātrā-Vṛttas, it is regulated by a periodic accent and hence not by any order but by regular stress.

19 As will be seen from its scales, melodies and rhythm, Folk-music does not violate the laws of the Physics of music even once, but in spite of its perfectly scientific structure, is unable to stir our emotions through the power of tones alone. The reason, for this, is that Folk-music has a Science but no Art behind it. Just as water is neutral in colour and takes the tinge of the colour we add to it, Folk-music has no tonal moods of its own, but adopts the mood poetry brings to bear upon it. Thus the same metre, with the same melody, may without any harm be used to convey sentiments of diametrically opposite characters.

20 In folk-songs proper, the poetic theme is never very serious, nor the language is very high. A simple, domestic or worldly topic—often the celebration of a marriage or love between young men and women, or an adventure or some such incident supplies the theme. The narrative also is never very serious or straight. An opportunity is frequently sought for a touch of drollery or odd humour, which is often the result of meaningless alliterations or thumping of the syllables of words and of fantastic rhyming. As for the scale of Folk-music, it will be interesting to consider the inherent factors which must have made it a truly consonant or natural scale.

It is common experience that the one aim of the reciter is to secure the greatest possible musical effect with the least possible strain.

The musical effect is again the result of the natural preference of the human ear for consonances. Consonances do not give beats and hence do not, like dissonances, excite the nervous apparatus of the ear, intermittently or irregularly. In consonance, therefore, there is no strain on the mechanism of the ear. The ear has thus a natural preference for consonances and checks the voice by regulating the motion of the larynx and the tension of the vocal chords with as much delicacy as is necessary to produce the tone which it demands. Such tones are modified by the particular shape of the oral cavity which—if the complicated action of its control is neglected for a time—is primarily an air-chamber and may therefore be likened to a resonating tube. Every such tube or chamber has a natural period and gives resonance for a note of definite wave-length and hence of a definite pitch. If the excitement is made more vigorous, the same tube is capable of giving notes which happen to be the overtones of the lowest or natural note. Thus, horns and trumpets when blown gently give the lowest or natural note and its upper partials, if the blowing is made more vigorous. It is on this account that the cries of some birds rise or fall by the intervals of the harmonic series and their constituents are mutually consonant. If the same considerations are extended to the human voice, it is clear that it should have a natural preference for generating consonant intervals, if it is to preserve the greatest possible ease and quality. Be it, therefore, the ear or the voice, for the best possible musical effect, the excitement of

either must in no way be forced or strained but must be truly sympathetic or natural. *Musical effect and ease of execution therefore go hand in hand.* Thus the scale for the folk-songs is supplied by the major scale or by some one of its transposed forms. There are four such forms which are generally met with. They correspond to the Ionian, Aeolian, Dorian and Lydian harmonies of the Greeks. According to Mr. Clements, 'a study of European and ancient Greek music shows that these scales are essential ingredients in any evolved form of music'. It therefore appears that in almost all countries, the folk-songs employ simple rational scales, though the music of such songs may mean nothing more than a musical way of pronouncing or reciting the individual words. In such songs, there is of course no tonal progression, as such, independently of the words. The advanced folk-songs also are mostly plain and simple in point of their tonal structure. But such songs, when accompanied by a drone and executed with tonal flourishes or occasional embellishments put on a semi-classical appearance, and lead us to the very door by which songs of the other group—i. e. those of the classical type—make their appearance on the scene.

To this second group, which necessarily requires musical accompaniment, belong the semi-classical and classical songs, proper. Advanced Folk-songs and Dances are of the semi-classical type, whereas the 'Chamber-Music' of today represents the classical form of music.

A consideration of the musical potentialities of the accompaniment employed by each form may easily bring to one's notice the salient features of each type

and thereby further simplify our present investigation.

In Indian music, the accompanying instruments are intended to discharge one or more of the following functions:—

1 To supply the keynote or the tonic, in the form of a drone etc.

2 To accompany or imitate the vocal or other principal parts of music, in a point to point or symphonic manner.

3 To supply the rhythm.

The drone supplies the keynote and maintains the level or the pitch of the song and thus ensures the accuracy of the intervals used. It thus provides an easy means of judging the degree of consonance of the several notes forming the melody, by throwing them into direct contrast with the constituents of the harmony, built up by the several upper partials of its primes. For a rich musical effect of such a nature, stringed instruments alone can be used; for, it is well known that instruments of the drum-type and the like are comparatively poor in effect and without recurring excitement, are unable to supply any back-ground as that of a drone. Such instruments produce higher partials, which are inharmonic and are therefore jarring. In short, for supplying a drone or the Tonic-Key as a back-ground, instruments of the drum or bell-type are not useful. Stringed instruments and the like, alone, serve the purpose well.

For the discharge of the second function viz. a point to point accompaniment or symphony, the stringed

instruments and those of the reed-type alone are useful for the reasons given above.

For the third function viz. supplying the rhythm, instruments of the drum-type, though poor in point of richness of tone or musical quality, offer a special advantage. The recurring excitement of such instruments and the rapid variations in the intensity of their sound confer on music the element of motion and power. Thus skilful drumming can produce almost every shade of motion straight or zigzag and of delicacy or power. The drum-type of instruments are therefore useful in making music as much powerful, emotional, smooth or zigzag as is desired.

Now, Folk-music and particularly Folk-dances employ a variety of instruments like drums, bells, cymbals, horns and trumpets and employ-if at all-a very weak and poor type of a drone, supplied either by a reed pipe or by the Tuntunē or the Ektār-the latter two being coarse instruments with one string only. The rhythmic element is therefore very powerful in such songs and dances, and as for the melodic effect, it is totally drowned by the tangled mass of sounds produced by the drums and such other instruments. The emotion is supplied not so much by the consonant or dissonant character of the notes used, as by the theme of the song. It is further strengthened by the gesticulations and bodily movements of the performers and its rise and fall is regulated by appropriate variations in the drumming. In such music, 'all are performers, no audience, and the crowd is a stimulus that keeps everyone dancing and howling in emulation.' Thus one or two give the song and others follow them, by repeating the same lines once again. All join

together, when the lines lead to the burden of the song. As the voices are usually untrained and shrill, the effect is not much musical but is only manly or powerful. It is further heightened by the quaint dresses of the performers and by the outdoor environments, in which such songs and dances are usually performed. In the more vigorous types, such as the War-Dances, the music is accompanied by the waving of flags and fire-brands and by the brandishing of daggers and swords and as a consequence, becomes very powerful and awe-inspiring. The songs accompanying such dances do not employ any fixed or regular scale but freely employ discords and effect sudden changes, in both the loudness and pitch of the sound. Thus at one time a song may be very rough, shrill and powerful, at another it may suddenly become soft and tender, with corresponding changes in the manner of the drumming also. This state of things is to be seen particularly in the Powādās or the war-songs of the Mahrāthās and other similar songs.

There is yet another type of Folk-songs, which appears almost classical. In this type the accompaniment is richer and the drums etc. employed are also tuned to the tonic note. Such songs are usually a mixture of the Folk and Classical ways of performing music and only serve as a link between the two. There is however nothing that is fundamentally new or different about them and hence they need not detain us any longer.

The last and by far the most important group is of songs of the classical type. In this group, there are three different ways of performing the music, which may be either vocal, instrumental or of the nature

of a dance. These three types together constitute what is traditionally known as 'Sangīta'. Among these, voice is man's first instrument in time and value. Other instruments merely imitate the voice, but cannot produce the articulate effect, which voice alone can produce. It is true that in harmonic music, instruments play an important role and hence stand on a par with the vocal parts, but as Indian music has no harmony, there is very little scope for the instrumental parts as such. They have always a secondary place in the scheme and merely follow or imitate vocal music. In dancing also, the vocal part forms the chief centre of interest which is further enhanced by appropriate acting and delicate bodily movements. In classical music, therefore, paramount interest attaches to vocal music only. This is why theorists from the ancient times down to this day, have always taken the word 'Sangīta' to mean vocal music, in particular.

In vocal music of the Classical type, there are two broad groups :—(1) Chamber music and (2) Mass music.

Chamber music is of the solo type and requires a harmonically rich accompaniment, usually in the form of a drone. The mass of tone is therefore never very powerful and accompanied, as it is, by a mild but harmonically rich accompaniment, the effect is never oppressive, but is always sweet and tender. Such music, therefore-be it gay or sad-is invariably of a reflective and intellectual character.

In the other variety, to which belong the Harikathā or Bhajan parties, and the Bājantries or Indian Band-parties, more drums and cymbals and almost none of the stringed instruments are employed. Hence such

music develops a large mass of tone and becomes powerful, but is less reflective and intellectual. In classical songs proper, the ethos or the emotional effect depends, not so much upon the theme, as in the case of the Folk-Dances, as on the consonances and dissonances forming the melodic law or the scale, chosen.

In short, the music of Folk-Songs and Dances, though poor in point of harmonic effect, is powerful and virile and the seat of the power is in the large mass of sound and in the enchanting rhythm of the accompaying instruments of the drum-type.

As for the advanced Folk-songs and songs of the Classical type proper, they are very rich in point of the harmonic effect and as they employ stringed instruments in preference to those of the drum-type are, though less vigorous, more sweet and touching than the Folk-songs. On this account, the Indian system has always restricted its attention to the consideration of the melodic and harmonic relationship between notes and the interpretation of their æsthetic value. Hence, in India, the science of music means the science of classical music only. In fact, the harmonically poor forms of music have really no science of their own. Ignorance or imperfect knowledge of the acoustic laws, poor and faulty accompaniment and want of fineness of performance are usually responsible for the poor musical effect of the early forms of music. With growing understanding and knowledge of the acoustic laws, music has always evolved a higher form. Thus, from speech evolved recitation and verse, from recitation and verse, the folk-songs and from the folk-songs, songs of the Classical type. It is then apparent, that a study of the science of Classical music

may provide a rational basis for explaining and understanding the development of the entire structure of music, both Classical and Non-classical. Consequently, there is no further necessity of extending our investigation beyond considering the essential features and processes of Classical Indian music alone.

CHAPTER V

The Unities of Indian Music

Classical music picks up the thread where Folk-music leaves it. In Folk-music there is no conscious aim of understanding the musical meaning of tones, or of extending it further for artistic effect. The evolution of Folk-Music is inherently a process of an unconscious synthesis of musical material both good and bad. Classical music, on the other hand, leaves nothing to chance, makes a conscious effort of isolating the good material from the bad and always aims at an intellectual understanding and interpretation of such material for further artistic effect. When such material is subjected to a conscious analytical process, it becomes evident that the various musical elements and operations hinge upon certain physical laws of broad and universal nature. These laws therefore play an important part in building up the Unities governing the different Music Systems. Further, even under the same Unity, numerous ways of musical expression are possible e. g. by creating different orders in the use of the musical material and form. This is how the different kinds of musical forms and expression have come into being.

We shall now briefly explain the Unities of Classical Indian Music and describe the particular forms and orders, which each one of them develops, in a subsequent chapter.

There are three principal Unities which govern Indian Music. They are:—

1 The performance of all music, to the accompaniment of a drone.
2 The strict adherence of the music to a particular Rāga or melodic law.
3 The strict and correct observance of a chosen measure of time throughout a given piece of music.

The First Unity:—'The primal unity of Indian music is in the tonic or the drone.' The reference of all music to the accompaniment of a drone is a practice which is common to both the ancient and modern systems of Indian music. The drone establishes a strong feeling for tonality, by supplying the sense of comparison or contrast of the different notes of a musical piece, with the constituents of its harmony as a whole. As the tuning of the prime notes of the drone is essentially the same to-day as it was in the old days, we can, without perversion of any ancient doctrines and traditions, make the drone a starting point for fully determining the tonality of Indian music. To enable the reader to appreciate the part played by the drone in Indian music, it is desirable to consider here how a feeling for tonality at all asserts itself and what the forms of tonal relationship are.

It is common experience that a melodic phrase or a chord appears to be the chord of a determinate root, even though there may be no accompaniment. It is because the ear unconsciously analyses the compound tone into its partials. This process of analysis does not however become a subject of conscious perception. To make it so, the chord must be accompanied by the root

note, which then functions as a tonic. To make the analysis easy and perfectly perceptible, the accompanying note must be sustained, as such sustained notes draw the attention of the singer towards the beats, and help him to check his own voice in the most decisive manner so as to avoid any dissonance. Thus the principle of tonality first comes into prominence unconsciously and finally asserts itself boldly.

Tonal relationship is of two kinds *direct* and *indirect.*

Two tones are said to be *directly* related when a perceptible partial of one coincides with a similar partial of the other.

Thus the notes C, G, F are *directly* related to the note C.

The relationship is *indirect*, when the two notes happen to be the upper partials of a third note taken as auxiliary. For example :—

$$\underbrace{c - d}_{G} \qquad \underbrace{A - B}_{E} \qquad \underbrace{B\flat - c}_{F}$$

The pair of notes, above each bracket, though not *directly* related between themselves are *indirectly* related through the corresponding bottom-note, as they respectively happen to be the Major Fourth and Major Fifth of that note. The bottom-note therefore serves as an auxiliary and is invariably included in the Tonic-Key or the drone, so as to make this relationship easily perceptible. The Tonic-Key of Indian music is the drone of the Tamburā and serves as a point of departure by means of which the pitch of the song can be maintained and the accuracy of the intervals, ensured. The drone

is usually of two types–the G–type and the F–type. The reason why these two notes are chosen as auxiliary notes in preference to other notes will be clear from the following explanation.

In making the choice for an auxiliary note, the Fifth and the Fourth of a note have a claim which is next to that of the Octave only. The Octave, however, is not a new note and only reiterates what the fundamental claims for itself. Of the remaining notes, the relationship of the Fifth and its inversion the Fourth to the fundamental is the closest and as such has been acknowledged in all known systems of music. Thus the closest and the simplest relation of the tones is reached when they happen to be the constituents of the compound tone of the tonic or of the Fifth, below or above it. The interval of a Fifth is therefore one, which secures the closest and the simplest relation between two tones. In addition to the fundamental, the drone should therefore include both its Fourth and the Fifth. But though each of them is individually related to the fundamental as a consonance they happen to be so near each other that their compound tone gives strong beats. The drone therefore includes only one of them at a time. The absence or omission of the other is not however appreciably felt, as it being a strongly consonant note the ear grasps or conceives its presence in a subjective manner. As a consequence, the drone is split up into two parts viz. the G–type and the F–type. Really speaking, they are not two different types as such; they are in fact the complements of a single ideal Tonic-chord or harmony. Under the circumstances, each complement may appear to fall a little short of the ideal harmony, but as already explained, the deficiency is almost completely wiped off

by the peculiar habit of the human ear to follow or grasp the presence of strongly consonant intervals in a subjective manner. The Fifth being a more consonant interval than the Fourth, there is less deficiency in the drone of the G–type than in that of the F–one-and hence less strain in following or imagining the existence of the complementary part. It is on this account that Indian music uses the G–type of the drone for almost all the Rāgas, and the other type for a few Rāgas only. But whether the drone is of the G–type or of the F–type, the method of admission of new notes to the scale is common to both. The new notes may be admitted through their relationship either with the Fifth or with the Fourth. In simpler Rāgas, the relationship is usually restricted to one of these, but as will be seen from an analysis of the scales of some complex Rāgas, the principle has a wider application and is applied in its dual form, to form the scale of one and the same Rāga.

As an illustration, it may be stated that if there is a relation of a Fifth between the corresponding notes of the two tetrachords of a scale, then there is automatically a relation of a Fourth, between the corresponding members of its first tetrachord and the tetrachord just below it (i. e from the lower octave), and those of its second tetrachord and the tetrachord just above it, (i. e. from the higher octave). Thus let us take the two tetrachords of the middle octave of the so-called Śuddha scale of Indian music and reproduce that scale over one tetrachord on either side. Then the sequence of relationship of the notes C and G is CG and GC alternately in the successive tetrachords.

				1st tetrachord of the higher octave			
				c	d	e	f
				480	540	600	640
1st.				2nd. middle octave			
C	D	E	F	G	A	B	c
240	270	300	320	360	405	450	480
2nd tetrachord of the lower octave							
G_1	A_1	B_1	C_1				
180	202·5	225	240				

Similarly the sequence of relationship of the other notes also is reversed, if the series begins one tetrachord below or above the middle C. This means that there is an alternate relationship of a Fourth and a Fifth, taking place between the two successive tetrachords of any given scale, reproduced, if necessary, both ways. This is true particularly of Indian music as it uses three consecutive octaves, and thus moves over four to six successive tetrachords, leading to an alternating reversal of the relationship.

In practical music, the instrument Tamburā supplies the drone. The Tamburā has a big gourd at the bottom, with a long hollow wooden neck above. It has two bridges, one at the centre of the flat side of the gourd and the other almost at the top of the wooden neck—the distance between the two being usually about three feet or a little more. Four wires are stretched across the bridges and their tension is varied by working little pegs at the top of the wooden neck. The two middle wires are of steel and are tuned in unison, to any desired pitch. The two outer wires are of brass. The first of them is a little thicker than the two middle wires and is tuned to a Fifth or a Fourth below the standard or the fundamental note given by the two middle wires. The other outer wire—the fourth and the last in the group—is thicker than even the first wire itself. It is

tuned just an Octave below the fundamental note. The drone is of the G or F-type according as the first wire is tuned to a major Fifth or Fourth, in the octave below the fundamental note.

The drone therefore is not a single note but is a collection or a bundle of several harmonic tissues in the form of upper partials and the combination notes, in addition to the primes. In such a combination, the primes of course predominate in point of intensity and duration, and of the primes, the note of the two middle wires, in particular, as it serves as the base for the secondary note G or F, as the case may be. The drone is thus a harmony built up by the primes, their upper partials and the consequent combination notes generated.

Whenever a piece of music is given to the accompaniment of such a drone, a comparison or contrast of the notes occurring in it, with the constituents of the harmony of the drone, is unavoidable. Such notes alone, as happen to have the nearest *direct* relationship with the constituents of the harmony of the drone, will compare favourably with it or will be felt as consonances and others for want of any such relationship will receive no backing and will provide a contrast and sound as dissonances due to the generation of beats. A rational consideration of the constituents of the harmony of the drone is therefore bound to give all the fundamental consonances of Indian music and may further help us in ascertaining how far the principle of tonality is followed in the construction of its different scales.

The drone is made up of three classes of notes, (1) The primes, (2) The upper partials of the primes, and (3) the combination notes.

Among these, the prime notes are the most conspicuous of all and inherently dominate the others in the harmony as a whole.

The next group is that of the upper partials of the primes.

As is well-known, partials higher than the sixth are scarcely audible and so there is no practical necessity of considering the upper partials' series beyond the sixth partial. Normally, such partials may not be audible in the drone, but when they are employed by artistes, the ordinarily thin partials may, by virtue of their union with similar but more powerful notes produced by the artiste, gather some force as to strongly influence the judgment of a listener. To provide some basis for judgment even in such extreme cases, we may consider the upper partials' series up to the ninth partial.

Thus, for example, the Western musicians stop at the seventh harmonic, as they find it extremely unsuitable for the purpose of their system. It is however not so with Indian music. The Indian professional singer not only uses the septimal intervals often, but uses them with distinct advantage and then the result is peculiarly soft and tender. According to Mr. Clements 'the importance attached to the septimal intervals i. e. those derived from the seventh harmonic, places the music of India in the first rank of intellectual development of musical art.'

The eighth partial is a mere repetition of the prime.

The ninth partial when reduced to the middle octave is just a major tone higher than the prime note and is a Fifth of the Fifth of the prime note. It is then through the Major Fifth acting as an auxiliary note, that

the ninth partial establishes its relationship towards the tonic note.

The tenth is but a repetition of the fifth partial.

It is from the eleventh partial onwards that we first come across notes, which, when not a repetition of any of the earlier partials, become more and more complex in their relationship towards the fundamental.

In short, the first six partials alone, being audible, deserve our full consideration, the next three viz. from the seventh to the ninth inclusive, though not audible in the drone, may sometimes gather some little strength and hence need some consideration, whereas, of the remaining higher ones, some are mere repetitions of the earlier ones and the rest, not being either audible or closely related to the tonic, do not invite any consideration at all.

We may therefore consider the upper partials' series of the primes of each type of the drone, up to the ninth partial in general and sixth partial in particular.

The harmonic upper partials' series for the G-type of the drone is as given below:—

Ordinal No. of the partial:–	1	2	3	4	5	6	7	8	9
Prime note.									
C	C	c	g	c'	e'	g'	7b'♭	c"	d"
C_1	C_1	C	G	c	e	g	7b♭	c'	d'
G_1	G_1	G	d	g	b	d'	7f'♭	g'	a'♯

From the above series, it is clear that the order of the audible consonances is as C, G, e, d, (b) and among the inaudibles 7b♭ is more prominent than either 7f♭ or a♯

The series for the F-type of the drone may similarly be written as :—

Ordinal No. of the partial:– Prime note.	1	2	3	4	5	6	7	8	9
C	C	c	g	c′	e′	g′	7*b*′♭	c″	d″
C_1	C_1	C	G	c	e	g	7*b*♭	c′	d′
F_1	F_1	F	c	f	a	c′	7*e*′♭	f′	g′

The order of the audible consonances in this group is as C, G, F, e, (a) and among the inaudibles 7*b*♭ is more prominent than 7*e*′♭ or *d*″.

We shall now consider the combination notes. Of these, there are two varieties :—(1) Difference notes and (2) Summation notes. The frequency of the difference note is equal to the difference of the frequencies of the two original notes. The frequency of the summation note is equal to the sum of the frequencies of the original notes.

The combination notes are again of the first, second or any higher order according as they are generated by the prime notes or by the first, second or higher partials of one note with any one of the other. The degree of loudness or prominence becomes less and less as the partial happens to be higher and higher.

Let us now find out the combination notes that may arise between the primes of the drone.

In the G-type of the drone, the notes are:—

G_1 (18) C (24) and C_1 (12)

So, the first difference notes will be :—

$C - G_1$	$G_1 - C_1$	$C - C_1$
24 – 18	18 – 12	24 – 12
$C_{\prime\prime}$	$C_{\prime\prime}$	C_1
6	6	12

The first difference note in all the three cases is the fundamental note itself, only one or two octaves below. Hence, it only strengthens the effect of the fundamental note.

The second difference notes are :—

$2C - G_1 = E$) $2G_1 - C = C_1$) $2C_1 - G_1 = C_{,,}$)
$48 - 18 = 30$) $36 - 24 = 12$) $24 - 18 = 6$)
$2G_1 - C_1 = C$) $2C - C_1 = G$) $2C_1 - C =$ unison)
$36 - 12 = 24$) $48 - 12 = 36$) $24 - 24 = 0$)

Thus the second difference notes also are not new notes at all. They already belong to the partials' series of the primes themselves.

If we persist in taking the third and higher difference notes, the resulting notes turn out to be the members of the upper partials' series of the *smallest common difference*, which in our case is $C_{,,}$ (6) and serves as the root note of the series given by the difference notes. Thus it will be seen that the difference notes of any order do not generate any new note, but only strengthen the effect of the primes themselves and their upper partials.

The summation notes again, for the same notes viz. G_1 (18), C (24) and C_1 (12) will be :—

1 st Order :—

$G_1 + C = 7Bb$ } $C + C = c$ } , $C + C_1 = G$ }
$18 + 24 = 42$ } $24 + 24 = 48$ } , $24 + 12 = 36$ }

$C_1 + G_1 = E$
$12 + 18 = 30$

2nd Order :—

$2G_1 + C = e$) $2C + C_1 = e$) $2C_1 + G_1 = 7Bb$)
$36 + 24 = 60$) $48 + 12 = 60$) $24 + 18 = 42$)
$G_1 + 2C = {}_{11}f\sharp$) $C + 2C_1 = c$) $C_1 + 2G_1 = c$)
$18 + 48 = 66$) $24 + 24 = 48$) $12 + 36 = 48$)

Summation notes of any higher order will also be represented by multiples of 6 and hence will belong to the series of the partials of which the number 6 represents the root note. Thus the summation notes also do not generate any new notes other than those already belonging to the upper partials' series of the primes or of their difference notes. Hence all the three groups of notes strengthen the earlier members of the upper-partials' series including the seventh partial 7B♭.

Thus in the G—type of the drone, the prominent consonances when arranged in a descending degree of consonance will be:—

C G E D B 7B♭, the first four being already audible in the drone.

If we extend a similar consideration to the F-type of the drone, the following scheme gives the difference and summation notes for that type.

1st difference notes:—

$$C - F_1 = F_{,,} \;) \quad C - C_1 = C_1 \;) \quad F_1 - C_1 = F_{,,,}$$
$$24 - 16 = 8 \;) \quad 24 - 12 = 12 \;) \quad 16 - 12 = 4.$$

The 2nd difference notes:—

$$\left.\begin{array}{l} 2C - F_1 = F \\ 48 - 16 = 32 \end{array}\right) \left.\begin{array}{l} 2C_1 - C = \text{unison} \\ 24 - 24 = 0 \end{array}\right\}, \left.\begin{array}{l} 2F_1 - C_1 = A_1 \\ 32 - 12 = 20 \end{array}\right)$$

$$\left.\begin{array}{l} 2F_1 - C = F_{,,} \\ 32 - 24 = 8 \end{array}\right), \left.\begin{array}{l} 2C - C_1 = G \\ 48 - 12 = 36 \end{array}\right\}, \left.\begin{array}{l} 2C_1 - F_1 = F_{,,} \\ 24 - 16 = 8 \end{array}\right)$$

As the number 4 happens to be the *highest common factor* of the series, two of the difference notes are but repetitions of the prime note F_1, only one and two octaves below and the third difference note is a repetition of the other prime note C. Thus the difference

notes are members of a series of upper partials of which the root note is represented by $F_{,,,}$ (4). The same will be the case for the second or any higher order of difference notes.

As for summation notes, those of the first order will be:

$$F_1 + C = A \qquad C + C = c \qquad C + C_1 = G$$
$$16 + 24 = 40 \qquad 24 + 24 = 48 \qquad 24 + 12 = 36$$
$$C_1 + F_1 = 7E\flat$$
$$12 + 16 = 28$$

The notes of the second order will be:—

$$2F_1 + C = 7eb \qquad 2C + C_1 = e \qquad 2C_1 + F_1 = A$$
$$32 + 24 = 56 \qquad 48 + 12 = 60 \qquad 24 + 16 = 40$$
$$F_1 + 2C = f \qquad C + 2C_1 = c \qquad C_1 + 2F_1 = {}_{11}B\flat$$
$$16 + 48 = 64, \qquad 24 + 24 = 48, \qquad 12 + 32 = 44.$$

Similarly any higher order of summation notes will give such notes as happen to be the members of the upper partials' series of which the note $F_{,,,}$ represented by the figure 4 will act as the root note.

Thus either the difference or summation notes of any order do not generate any new notes in the F-type of the drone also, but further stress the early members of the upper partials' series for the primes. The prominent consonances, when arranged in a descending degree of prominence will then be C G F E A of which the first four members are audible in the drone. The notes C, G and E, being distinctly audible and common to both the types of the drone, serve as good links between the notes of the two types.

In short, the combination notes do not materially alter the effect of the upper partials' series for the two types, but on the other hand strengthen the first five

terms of the series concerned and lend some stress to the seventh harmonic also. The complete series of the G–type up to the first nine members may be written in the middle octave as—

C D E 7F♭ G A♯ 7B♭ B c...(1)

Similarly the series of the F–type, written in the octave F_1–F is—

F_1 G_1 A_1 7B♭ C D 7E♭ E F...(2)

or in the octave C–c is,

C D 7E♭ E F G A 7B♭ c...(3)

the reason for writing the second series in the octave F_1–F is that the note F_1 serves as the root note for the combination notes of that type and in the series for the upper partials of the primes also, it is strongly backed up against the tonic note C.

The notes of the series (1) are a just Fifth above the corresponding notes of the series (2). Hence the tonality of the two types is not different but is only parallel, and by a simple change of the base from F_1 to C may become identical.

These two series as given by the two types of the drone include all the consonances of the Indian system. Of these, the septimal intervals have a minor place in the scheme. Again the consonance A♯, being a more distant (ninth) harmonic, is less consonant than A, which is the fifth harmonic of the series for F_1. Thus it is, that where F predominates, A is chosen in preference to A♯. To return to our point, the model scale or scales of Indian music must choose their degrees from these fundamental consonances in the first place.

As for the construction of a scale, the ancient Indian system lays it down that (1) as far as possible there

must be symmetry between the two tetrachords of the scale, and that (2) the corresponding members of the two tetrachords must be mutually related by the interval either of a major Fifth or of a Fourth.

So, to choose the scale in a rational manner, we must choose the degrees from the essential consonances forming the harmony of the drone, and so arrange them as to give two similar tetrachords with a relation of a Fifth or a Fourth, between their corresponding members. No such scale is ideally possible from only the audible or major consonances of the harmony of the drone. The nearest approach to such a scale is by the admission of A♯ to the scale, in preference to the note A. Then the scale is as :—

C D E F G A♯ B c

Here the two tetrachords are perfectly similar and their corresponding members are at a distance of a Major Fifth. Thus the pairs, C–G, D–A♯, E–B, and F–c, are related by an interval of a just Fifth.

If we choose the septimal intervals, then C D ^{7}E♭ F G A♯ ^{7}B♭ c is also a scale with similar tetrachords of which the corresponding notes are related by the relation of a perfect Fifth only. These two are the fundamentally consonant scales, possible under the circumstances. Additional scales, may be derived by admitting notes which, though not directly related with the primes, may claim an indirect relationship with them through the notes of the fundamentally consonant scales. Such relationship must be of either a Fifth or a Fourth. (The following table gives such derived consonances—reduced to the middle

octave—with their relation to the fundamentally consonant notes:—

Note of reference.			The derived notes:— Fourth		Fifth.	
1.	C	(240)	F	(320)	G	(360)
2.	D	(270)	G	(360)	A♯	(405)
3.	E	(300)	A	(400)	B	(450)
4.	F	(320)	B♭♭	($426\frac{2}{3}$)	c	(480)
5.	G	(360)	C	(240)	D	(270)
6.	A	(400)	D♭	(266·$\frac{2}{3}$)	E	(300)
7.	A♯	(405)	D	(270)	E♯	(303·75)
8.	B♭	(432)	E♭	(288)	F*	(324)
9.	B	(450)	E	(300)	F♯	(337·5)
10.	E♭	(288)	A♭	(384)	B♭	(432)
11.	F♯	(337·5)	B	(450)	D♭♭♭	(253·125)
12.	A♭	(384)	D♭♭	(256)	E♭	(288)
13.	D♭♭	(256)	F♯♯♯	($341\frac{1}{3}$)	A♭	(384)

Apparently every new note obtained may be taken as a new base and the series may be continued indefinitely. But it should be noted that such derived notes become more and more distantly related to the primes and soon cease to be consonant in character. From these additional notes, fresh scales may be derived on the model of the fundamental consonant scale. The following are the most common scales of such a type, in which the two tetrachords are perfectly symmetrical and are related by the relation of a Fifth or a Fourth, and in which both the auxiliary notes F and G are necessarily included. Hence these scales serve as the essential or model scales for those of the chromatic type.

1. Notes C D E F G A♯ B c
Frequency 240,270,300,320,360,405,450,480

The two tetrachords here are related by a Fifth.

2. Notes C D E F G A B♭♭ c
Frequency 240,270,300,320,360,400,426⅔,480

The relation is that of a Fourth.

3. Notes C D E♭ F G A♯ B♭ c
Frequency 240,270,288,320,360,405,432,480

The relation is that of a Fifth.

4. Notes C D E♭ F G A♭ B♭♭ c
Frequency 240,270,288,320,360,384,426⅔,480

The relation is that of a Fourth.

5. Notes C D♭♭ E F G A♭ B c
Frequency 240,256,300,320,360,384,450,480

The relation is that of a Fifth.

6. Notes C D♭♭ E♭ F G A♭ B♭ c
Frequency 240,256,288,320,360,384,432,480

The relation is that of a Fifth.

An analysis of the various scales used in Indian music shows that it uses scales of both the consonant and chromatic types. (See appendix for the chromatic scales). As Indian music has no harmony, chromatic scales do not offer much difficulty in their use. What the system insists upon is that it must keep intact the relationship of a major Fifth or major Fourth between the corresponding members of the two tetrachords. To keep this relationship always true and prominent, the system further requires every scale to include, in addition to the fundamental note, either its Fourth or Fifth so

that it should function as the consonant note for reference in the second tetrachord. Thus in each tetrachord the music starts from and necessarily returns to the prime notes of the drone. This helps the performer to maintain his sense of tonality firmly. The other consonances generated by the harmony of the drone serve him well in fixing his intermediate notes also, as they provide in themselves a good standard of comparison and contrast. The question of choosing a scale, therefore, reduces itself to introducing notes in a given tetrachord and then by the principle of parallel tonality, the notes of the other tetrachord are automatically fixed. Such notes, as happen to be the members of the harmony of the drone, will give consonant scales and others will give less consonant or dissonant scales. To heighten the effect, the dissonances may in certain cases be made further acute. In such cases, the scales are of course chromatic, but help to widen the range of artistic performance.

In practical music, the method of the vocal performer fundamentally differs from that of the instrumentalist in obtaining any scales. The instrumentalist sticks up to his frets or keys and thereby often exposes himself to small errors. The vocal performer on the other hand bases his judgment on the harmony generated by the drone, and so his sense of tonality is never lost. Thus if a sharp or a flat of a note is wanted, the instrumentalist will change the position of his frets or vary the tension a little. The vocal performer on the other hand will try to link up such a note with one of the prominent consonances of the harmony of the drone, either as a consonance or as a dissonance, according as the case may require, and thus always observe the true interval, by the simple device of the accompaniment of a drone as a constant background to his music.

Again for a change in scale, the instrument player has to make a new adjustment for every new scale, but for the vocal performer who uses a drone, there is no necessity of any new arrangement at all; all scales whether with sharps or flats can be fully brought out with the help of the same common harmony of the drone. The constant use of the drone trains the performer in the habit of employing truly harmonic intervals and in the proper understanding of the artistic use of dissonances. The drone further strengthens the modal effect and enlarges the scope for variation between Rāgas belonging to the same family. Above all, it boldly asserts the feeling for tonality, by constantly stressing the tonal relationship between the individual note on the one hand and the fundamental or the tonic note on the other. Since there is no harmony, as such, in Indian music, 'the notes of a chosen scale stand out from each other as clearly as the faces of our friends do to our minds eye' and their individual consonant or dissonant character also stands out clearly and prominently on account of the contrast provided by the harmony of the drone. In Indian music, particular interest therefore attaches to the tonal relationship of each note—be it a consonant or dissonant one—towards the harmony of the drone, of which the fundamental or tonic note is the chief and powerful constituent. The First Unity of Indian music therefore is in the correct observance of the tonal relationship of the chosen notes, and it is easily and correctly observed by the constant reference of all music to the accompaniment of a drone, as previously described.

It is on account of the increasing influence of the drone, that the whole system began to be considered as being based on one Grāma (a group of essential

notes) instead of on two, as in the old days. Really speaking in to-day's music there is no one parent mode or Grāma as such, but it is a harmony of several consonances which is provided by the drone that has taken its place. Again this harmony contains such intervals as may admit of a relation of a Fourth or a Fifth between the corresponding members of the resulting or chosen scales. It is therefore wrong to suppose that all music has been reduced to one Grāma—the Ṣaḍja Grāma. The fact is that music has been using intervals belonging to both Grāmas and other intervals also, which do not belong to either of them, and after due incorporation of the merits of each, has extended its possibilities much beyond the limited field of the Grāmas. With the constant use of a drone, it is impossible to ignore the strong sense of tonality which the music develops and that over and above the relation of the individual notes towards each other, the relation of each note towards the tonic or the keynote asserts itself boldly and throws its relation with the other notes in the back-ground. It is on this account, that scales began to be judged by their reference to the tonic note. Again, as the G-type of the drone is used on a very large scale, —for almost all kinds of music—and the F-type in a few cases only, the consonances belonging to the G-type largely engage one's attention. But there are many musical compositions, which though played or sung to the G-type of the drone, employ consonances of the F-type. This means that the linking of tones is a matter of a free choice and has its roots in the essential laws of harmony, rather than in the narrow and unintelligible relations of the old Grāmic scales. Following what Sir James Jeans observes at one place, we may say that this is in keeping with the natural tendency

of continually enlarging the potentialities of the scale. The scale has been in turn pentatonic, heptatonic, of twelve or twenty-two notes and may yet be split up into a larger number of divisions in order to make it still richer and more accommodative. But in every such attempt, the simple ratios of the harmonic upper partials must beyond doubt figure most prominently. The Indian system is not an exception to the above. Originally the scales were very rigid, then they went by tetrachords, then there was the thought of symmetry between the two tetrachords, then they went by *sangati-s* or by associating two particular notes together and finally the construction of a scale has now come to rest on the relationship of the different notes towards the harmony of the drone or the Tonic-Chord of Indian music, if we may call it so. In Western music, a strong feeling for tonality makes the passage from a major to a minor scale easy and enjoyable In Indian music too, there is a similar development. Thus in the scales of certain Rāgas, there is a frequent change from the relationship of a Fourth to that of a Fifth and *vice versa* and under the circumstances the scale evidently develops *enharmonic* forms in the case of some of its notes. It is the drone therefore and the consequent feeling for tonality it creates, that make such music easy and enjoyable. On this account, the reference of all music to the constant accompaniment of a drone forms the first and foremost Unity of Indian music.

CHAPTER VI

THE UNITIES – CONTINUED

Rāga, the Second Unity of Indian Music.

The observance of a strict melodic law or a Rāga throughout a piece of music is the second important Unity of Classical Indian music. In a Rāga, a particular scale is chosen and its notes are so arranged as to excite a certain emotion in the mind of the listener. Rāga is a distinctive feature of Indian music and is not known to the music system of the West, in which 'Harmony' predominates and the mood changes according to the impulse of the moment.

The word Rāga literally means 'that which enraptures the hearer.' Incidentally, it is not a plain, simple thing. It is neither a scale, nor a mode, much less is it a melody, for a single scale or a mode may generate more Rāgas than one and in one and the same Rāga, innumerable melodic arrangements are possible. Thus, in the ancient days there were only Jātis or modes, but as it was later on found that it was possible to extend the potentialities of a mode still further, the Jātis were gradually replaced by what are called Rāgas. Out of a single mode or a particular scale, many different Rāgas can be formed by giving prominence to this or that particular note or to a particular melodic nucleus. A Rāga is thus an artistic idea or an æsthetic scheme of which a scale, a mode and a melody or melodies form the raw material.

There are three chief categories under which the Rāgas are classified. Thus a Rāga is Suddha or pure, Chāyālaga or derived or is Sankeerṇa,—meaning—of mixed origin, according as the scale, employed by it, is Suddha or pure, derived-meaning slightly modified, or is wholly chromatic in its character. The Suddha Rāgas admit of a more general and broad treatment than the Chāyālaga, in which the treatment becomes more and more specific, till finally in the Sankeerṇa Rāgas it becomes absolutely singular.

Again, in one and the same category, there are three primary ways in which a single scale may be employed for the formation of the Rāgas. Thus, if only five degrees of the scale are chosen, the Rāga is Oḍava or pentatonic, if six are chosen it is Ṣāḍava or hexatonic and if all the seven are chosen, it is Sampūrṇa or one employing the full scale.

Further, there will be Rāgas, which may be Oḍava both in ascent and descent or may be Oḍava in ascent only and Sādava or Sampūrṇa in descent. Thus for the Oḍava variety alone, there will be three sub-varieties and for the three main varieties together, there will be in all nine sub-varieties of choosing the notes for ascent and descent from one and the same scale. A Rāga must therefore, belong to one of these nine varieties in which a scale can be chosen.

The chosen scale does not however attain the status of a Rāga, unless it further obeys the following conditions:—

1 It must necessarily possess æsthetic potentialities,

2 It must always take C (Sā), the fundamental.

3 It must employ the full range of an octave and so must cover both the tetrachords.

4 It must not omit both F (Ma) and G (Pa) simultaneously, which means, that it must always include at least one of them, if not both.

5 It must not take both flats and sharps of the same note consecutively.

It may be shown that the above conditions have a truly scientific origin in the principle of tonality itself as explained in the last chapter and have nothing that may be called capricious about them. Let us therefore examine their significance one by one.

Thus the æsthetic potentialities, necessary for a Rāga, according to the first condition, are realised by giving prominence to a particular note in preference to others. This preference throws that note in direct contrast with the Tonic-harmony of the drone and thereby boldly upholds the particular consonant or dissonant character of that note, thus imparting a distinct æsthetic stamp or ethos to the Rāga. The note receiving such prominence is called the Vādi. To heighten the effect of the Vādi, another note either its Fifth or Fourth -and hence one belonging to the other tetrachord-is given next best prominence. This note is called Samvādi or the helpmate of the Vādi. The Samvādi imitates what the Vādi does in its own tetrachord, and being at a distance of a Major Fifth or Fourth from the Vādi, provides a point of reference to maintain the accuracy of the intervals between the notes of its own tetrachord. It thus bears an equally consonant or dissonant relation towards the base note of its tetrachord, as the Vādi bears towards the tonic, which acts as the base note of the first tetrachord. If the Vādi belongs to the

second tetrachord and the Samvādi to the first, the comparison still holds good but with the bases interchanged i. e. between the Samvādi with the tonic and the Vādi with the base-note of the second tetrachord. In any case there is a symmetry between the corresponding intervals of the two tetrachords of the scale of a Rāga. Thus the principle of similarity of the two tetrachords of a scale, as required by the First Unity is facilitated by the Vādi-Samvādi arrangement which as a result requires the observance of the second condition viz. that a Rāga must cover both the tetrachords fully.

The æsthetic potentialities of a Rāga are further extended by assigning to it particular combinations of the principal notes of the chosen scale, certain embellishments, ascending or descending, conjunct or disjunct forms of melodic motion, and the hour of the day appropriate to the mood or æsthetic stamp given by the Vādi and Samvādi of the Rāga. All these however come under the Æsthetics of music and will therefore be dealt with, in a separate chapter.

Now, the third condition viz. that a Rāga must not omit (Sā) C or the tonic and must include at least (Ma) F or (Pa) G evidently shows that each of the two tetrachords of a Rāga must begin invariably with its respective base note. The base notes are none other than he prime notes of the Tonic-harmony of the drone. Thus the arrangement of the tetrachords of a Rāga-scale is directly based upon the practice of tuning the Tamburā which supplies the drone 'without which the Rāga-scale would be like a ship without a rudder.' This explains why a Rāga must include either Ma (F) or Pa (G) in addition to the tonic note Sā (C) and also why Indian music requires the constant accompaniment of a drone.

The last condition that a Rāga must not take the sharps and flats of the same note consecutively has also a similar justification. For, while passing from the fundamental to its Octave by gradually raising the pitch of a note, it is at certain specific points only that consonances come to a peak. The degrees of the Suddha or model scale are so chosen as to represent the consonances, indicating these peaks. Thus between two consecutive peaks or notes of the model scale, there can be no other peak or note, as consonant as the two Suddha notes. An intermediate note, if chosen, is bound to be a little more sharp or flat than the neighbouring natural notes. A Śuddha or a natural note being a consonance compares more favourably with the drone, as also with its neighbouring Śuddha notes, than either its sharp or flat form. The Suddha note is therefore related to the drone and other Suddha notes as a consonance and the sharp or the flat one as a dissonance. In taking the Śuddha note consecutively with its sharp or flat form, there will thus be two conflicting æsthetic processes in one and the same Rāga and so they would baffle the very unity for which a Rāga stands viz. that of making a specific emotional or æsthetic appeal.

In such a procedure, there is yet another difficulty viz. that small chromatic intervals not belonging to the scale check the easy flow of melody and are a distinct handicap particularly in vocal performance and produce dissonance. Again, introducing discords, without any æsthetic end in view, is meaningless and merely annoying. For all these reasons the consecutive use of a sharp or a flat of a note, along with its Śuddha form, is strictly forbidden in Indian music.

Over and above these rules, there are some other conventions, which a Rāga has to observe. These are

an outcome of age-long associations and practice and have assumed almost the same significance as the scientific rules.

A few of the more important conventions may be given here. Variations in the temperature and humidity of the atmosphere are both seasonal and diurnal, and even on one and the same day these occur almost hourly. The seasons greatly influence our diet, dress and moods, and the day and night-cycle controls our hours of work and rest. These are the factors which are mainly responsible for the assignment of particular seasons and also of a particular part of the day or night for singing or playing particular Rāgas.

Thus particular Rāgas are to be sung in particular seasons and even in that season, at a particular time of the day or night. It would be considered a sacrilege to sing a Rāga at any other time, except the one assigned to it. The restriction about the season has almost disappeared in course of time, but the restriction about the time of the day or night still dies hard.

For the purpose of the allotment of proper time to each, the Rāgas are divided into Pūrva and Uttar Rāgas. The Pūrva Rāgas have their Vādi note in the first tetrachord, while the Uttar Rāgas have their Vādi note in the second.

In the Pūrva Rāgas, as the Vādi belongs to the lower part of the scale, it is but natural that they should have a tendency for ascending progression, while on account of the high position of the Vādi, the Uttar Rāgas can evidently show their best charms in the descending form of progression. The Pūrva Rāgas are sung from midday onwards up to midnight and their ascending progression is in keeping with the more

vigorous and active part of the day. The Uttar Rāgas on the other hand, with their descending progression, are delicate and plaintive in character and justly employ such hours viz. those from midnight onwards up to midday, during which one is mostly by oneself and puts on a reflective mood, and when, on account of a considerable fall in the general noise level, very soft and low notes can be easily heard and enjoyed. Except perhaps the psychological reason given above and the strong hold on our minds of our traditions and long associations, there is no other reason which gives a satisfactory explanation of the order of allotting particular hours to the different Rāgas.

Sunrise and sunset happen to be the respective midpoints of the two time-cycles and it is at these times that the best Rāgas of each type are to be heard. Such Rāgas are called Sandhiprakāsh meaning twilight Rāgas and are the most favourite of the artistes and listeners alike. In Indian music, it has been customary to associate specific Rāgas with specific emotions. Why a particular emotion is associated with a particular Rāga is a matter which needs closer consideration. As such, the problem is dealt with independently in another chapter and there it will be seen that it has a truly scientific basis. But, as far as the average student of Indian music or the professional is concerned, his ideas about the relation between the Rāgas and their Rasas or emotions are more or less arbitrary and are often queer.

So far, we have given the general principles and conventions of the Rāga-system. But it need not be supposed that the system is perfectly rigid and incapable of further changes or evolution, as some orthodox scholars and almost all professionals believe. In fact it may be seen that the Rāga-system has been an ever-

growing idea and has gradually developed along rational lines of evolution, even in the past. Thus, from scales, modes or Jātis were obtained. From the Jātis, Rāgas were obtained by particular arrangement of the tetrachords and by giving prominence to an individual note or group of notes serving as the Rāgānga or nucleus of the Rāga. In the early stages, the nucleus was as far as possible so chosen as not to disturb the symmetry between the two tetrachords. But, as there was bound to be a very limited number of scales with perfectly similar tetrachords, the Rāga system had to employ scales with dissimilar tetrachords also. In such scales the parallelism between the Vādi and the Samvādi could not remain intact and the Samvādi began to be neglected. In such cases the Rāga-criterion began to be based upon the Vādi aided by special Sangatis or associations of certain notes together—a process almost similar to the progression of Western music by chords. But as the constant reference of all music to the drone could further offer free scope for every note of the Rāga to assert its individual character, either as a consonance or as a dissonance independently of the other notes of the Rāga-scale, the Rāga-criterion settled down solidly upon giving prominence to a desired consonance or dissonance and hence to a particular note of the Rāga scale, and so manipulated the other notes as not to be prominent enough to efface the effect of the chief note - the Vādi or the dominant. To preserve the individual character of the Vādi, it was necessary to refer it always to the Tonic-harmony of the drone and as such, the drone itself became the point of start and return of all music. The drone thus superseded the old convention of the Graha and the Nyāsa—viz. of beginning music with a specific note and ending it with another specific one. This is quite justifiable in a

system employing a drone, which supplies the very basis for judging the several notes employed in a Rāga.

But although the drone was a simple and rational means of fixing the tonality of music, the very fact, that it needed no conscious effort on the part of the performer to fix it, deprived the majority of the performers of the art of tuning. The state of things was not so bad, when the music was accompanied by such instruments as the Beena. But this set up the Beenakārs who well knew the art of instrumentation, against the vocal performers who badly needed it, but never cared to know it. This rivalry brought about a permanent separation between the vocal and instrumental performers. This happened about the close of the Seventeenth century and from that time the vocal performers relied solely upon their æsthetic sense for the development of their art and as was natural, many of them could not have the necessary fineness of æsthetic judgment So, music began to take liberties with the laws of harmony and developed along chromatic lines. But as the drone was a strong and sure bond between music and harmony, only such chromatic deviations, as were really interesting or served an æsthetic purpose, survived and others perished as a matter of course. This is how some of the Rāgas with chromatic scales have come into being.

This tendency of taking undue freedom with the Rāgas has been rampant among the present-day professionals and the so-called music-directors, who having discarded the use of the Tonic-harmony of the drone, instead prefer the harmonium. These, therefore, stand the least chance of developing the faculty of correct intonation. It is true that people are becoming more music-minded on account of the wide field opened

to music by the Phonograph, the Radio and the Talkies, but it is equally true that the æsthetic sense of the masses cannot at once attain the degree of fineness, which a cultured mind may need or possess. Under the circumstances, the performers and the music-directors and manufacturers have been vying with one another in supplying music, as bad and rough as is in demand! Of course, there are honourable exceptions and it augurs well that thinking people have been sick of such music. Further, it is a welcome sign of the times that the number of people taking academical interest in the study of Indian music is increasing everyday. One may therefore hope to see that music is soon freed from the clutches of the present-day music-caterer.

No account of the Rāga-system will be considered as complete, without an attempt to distinguish clearly the Rāga-system of the North from that of the South. The necessity arises from the fact that the two systems had originally a common ancestry.

According to the Pandits, the Southern system remains mostly what it was. It is the Northern system which has undergone a change perhaps due to the change in the æsthetic bearings such as the greater predominance of the drone or perhaps on account of the bifurcation of instrumental music from the vocal. The change must have occurred partly as a matter of evolution and partly on account of the reactions of its contact with the Persian or Mohammedan art.

The Rāga system of the South is a matter of mathematical computation and is thus easy to understand. The Southern system recognises only twelve notes in an octave. This number includes all the notes, the Suddha, as well as the sharps and the flats. Each

tetrachord consists of six notes. Of the twelve notes a Rāga-scale is to employ only seven notes covering up the whole octave and has to obey further all the rules previously referred to in this chapter.

Thus by different arrangements of the notes in each tetrachord and combining them so as to give the maximum number of individually different scales, thirty-six scales are obtained for Rāgas which take the Suddha Ma or the note F and an equal number further for those that take the Tivra Ma or the note F♯ in all giving 72 Thāṭ-s or parent scales. Again each Thāṭ or parent scale gives 484 different Rāgas by permuting the notes of each of the nine varieties of choice, such as the Odava, Ṣāḍava and Sampūrṇa etc. Thus the total number of the possible Rāgas according to the Southern system is 72 × 484 = 34848. But, of these, only about two hundred are current even in the South, the rest of the lot, as one may easily imagine, are either not explored or do not possess æsthetic individuality necessary for the formation of a new Rāga, as distinctly different from any already known. By no means of course, the Rāga-system has been fully explored, nor is it ever possible to do so, but the fact, that the number of Rāgas with individual æsthetic potentialities is itself very small, is at the bottom of why only a few Rāgas are current and shall remain current even in the South.

The Northern school on the other hand did not attempt the mathematically possible but æsthetically impossible task of obtaining the maximum number of Rāgas, but chose to start with such scales as offered a good æsthetic nucleus. In the old days as previously referred to in the first chapter, there were rival Matas or schools of musical thought. All of them, however, proposed six as the minimum number of primary Rāga-scales.

These were the six Janaka Rāgas or the parent-scales of the Northern system. Eacn Janaka Rāga, had five Rāgini-s (or wives) which were derived by shifting the choice for the Vādi from one note of the scale to another. Again each Rāgiṇi, either by including some fresh notes or by omitting some from its original ones, was to give six sons or subsidiary Rāgas. Thus the total number of Rāgas and Rāgiṇi-s for one Janaka Rāga or parent-scale was thirty-six and for all the six parent-scales together 216. This is about the same number as is current in the Northern system of to-day. Of course, no single artiste knows all these Rāgas, nor even the best among them are able to give more than a hundred to hundred and fifty of them. The reason for this small number is that Rāgas, differing only by a small change here or there, nearly merge into one another and lose their individuality as such. It is in this manner that a majority of the mathematically possible number of Rāgas overlap each other and lose their individual significance. Thus the Southern Pandits theoretically advocate 72 Thāṭ-s or parent scales, but for the purposes of practical music, feel satisfied with only 19 parent-scales as these do embrace all the known Rāgas even of their system.

The chief merit of the Northern system lies however in the fact that every derived Rāga or Rāgiṇi possesses some distinct feature belonging to the Janaka or parent Rāga and yet differs from it and other derived Rāgas by a feature individually its own. Hence, though the æsthetic appeal of such a family or clan of Rāgas is generally of a set type, yet it requires great artistic skill in bringing out the distinguishing character of two near-most Rāgas.

The clan idea of Rāgas could not however cover all the requirements of the Northern system and hence alternative arrangements began to be proposed from time to time. Thus some scholars advocated the necessity of assuming more than six fundamental or parent scales and some suggested as many as nineteen. At present there is no unanimity about the minimum number of such parent scales necessary to embrace all the Rāgas of the system. The latest and perhaps the ablest advocate in the field was the late Pandit Bhātkhande of Bombay who based the whole system only upon ten parent-scales, but even his plan has many weaknesses and is not able to accommodate all the Rāgas of the system in a satisfactory manner.

Tāla,—The Third Unity of Indian Music.

Tāla or the singing or playing of every piece of music strictly to a chosen measure of time is the third and the last Unity of Indian music.

As is well known, Indian music, which is homophonic and has no harmony, can show its best charms in the region of melody only. Melody however is a regular change of pitch with respect to time and so proceeds by determinate steps. Hence it has to pay special attention to rhythm. Indian music has consequently developed every phase of it with minute precision and employs several time-measures not known to the Europeans.

A time-measure employs a fixed number of Mātrās or time units; a short syllable means one Mātrā and a long one means two. The timing of the Mātrās is regulated by assigning to them a fixed Laya or duration of time. Subjectively, the Laya or the rhythmic sense means the ability to maintain precisely the uniformity of

the time-span of each Mātrā or time-unit. The Laya therefore is as it were the soul of every time-measure. There are three varieties of Laya—Vilambita, Maddhya and Druta, corresponding to the *slow*, *medium* and *fast* varieties of *tempo* in the Western system. The Maddhya or the medium is twice as fast as the Vilambita or the slow, and the Druta or the fast is twice as fast as the Maddhya or the medium.

In the early stages musical time followed the same sequence of long and short as that of the poetic metre used for the song. The time-measure therefore used to possess the same number of bars or divisions as those of the metrical line or foot. A bar or a beat usually signifies the place of stress. But as the rhythm of poetry mainly depends upon the actual movement of the words, and not on the Tāla, it is regulated more by the sense and the length of the words than by the regularity of stress. The measurement of time by quantity or by the number of long and short syllables does not therefore necessarily contribute to the periodicity or regular recurrence of stress which rhythm in music means. The poetic metres therefore did not at all suit the requirements of musical rhythm, which framed its different time-measures on the principle of regularity and symmetry of the places of stress and rest possible under the circumstances.

In poetry, it is the meaning of words that matters, while little value is attached to the emotional power of pure tones. Music, however, attaches more value to the emotional power of the tones than to their literary meaning and this served to make its rhythm still further independent of the poetic metres.

A Tāla-measure consists of several bars and places of rest.

A bar may consist of two or more Mātrās but the chief constituents of a bar are either a group of two or three Mātrās, joined together or a group of them repeated once, twice or more times as required to make up the total number of Mātrās assigned to the bar. The bar is indicated by special stress or accent or by the beat of the hand or by a special conventional sound on the drum. Special stress is given on the principal bar and deliberate silence is observed or some other conventional sound is produced on the drum, to mark an agreed position of rest. The silence indicates a particular phase of each Tāla-cycle and thus helps to maintain the sequence of the bars or places of stress in the measure, accurately.

Ancient works on music mention five Mārgi or generic Tālas or time-measures. A number of fresh Tāla-measures used to be obtained by assigning different time-values and sequences to the Mātrā-groups forming the Mārgi Tālas, according to rules specifically laid down for the purpose. Thus, for generations past, there have been as many as one hundred and eight Tālas in vogue and thirty-five of these are considered to be of special importance. Most of these, however, belong to the sphere of pedagogic interest and in practice only a few are really needed. Out of one and the same Tāla-measure, a skilful drum-player or a Tāla-expert can create at will a number of time-idioms, smooth or zigzag and signify a desired degree of ease or strain in following the Tāla-measure. Temporary variations in the strict form of the Tāla-measure are made by changing over from a time in 'two-s' to a time in 'three-s' and by effecting phase differences between the places of stress and pause of the strict and the free forms of the time-measure. Such handicaps evidently put the skill and culture of the performer and

the listener, as well, to a rigid test. Indian music does this by laying it down that an artiste must not take any liberty with a time-measure or with the Laya, in particular. Liberty with the Tāla-measure may for once be tolerated but that with the Laya, never!

Thus by the very choice of a time-measure and by free variations of its strict form, different degrees of ease or strain can be suggested and our instincts and emotions, bearing a correspondence to the smooth or zigzag, slow or rapid character of the time-idiom, can be awakened.

In short, the first Unity discloses the method of selecting a scale in an ideal manner and determines the degree of the consonant or dissonant character of a note and fixes its place in the scheme of tonality, the second by giving prominence to particular notes and hence to particular consonances or dissonances makes capital of those consonances or dissonances for an emotional appeal, and the third helps to maintain the flow of the emotion and governs its rise and fall. Thus the three Unities of Indian music are the complementary steps of a common musical end in view and together make for a larger Unity viz. of giving character to music.

CHAPTER VII

THE ÆSTHETICS OF INDIAN MUSIC

The larger unity or the one theme of classical Indian music is to give character to music.

Character, as we may see, has its roots deeply laid in the tonal relationship of the notes used and in the melodic progression, as extended in the region of rhythm. A song or a tune is the outward embodiment of music, but character is its very soul. The processes which bring out the full beauty of this soul form the Æsthetics of music.

We shall now give the different æsthetic processes employed in Indian music and see what justification they may have from the view-point of modern science.

To begin with, the drone is tuned to the fundamental of the singer's voice. Then a song is given to its accompaniment. Every classical song has a poetic theme. This is usually very simple in nature. It may be in praise of God or a mythological deity or hero, or of a king or patron. In some cases, it may be from music itself or be one describing nature. But more often than not, it may concern itself with lovers with the conventional slip between the cup and the lip. In short, the composition is usually of a simple and homely character. Nor does music allow much scope for any special poetic merit, as the meaning of the poetic words and phrases is stifled or thrown into the background so completely, even by the one-part accompaniment and

processes such as those of the Indian system that the audience has to be content mostly with the notes of the music and has often to guess the words. This is true not only of Indian music but of the music of the West also. As Megroz puts it ' the words of the majority of songs are so poor and even silly, that the loss is not necessarily severe.' In any case, the Indian audience does not feel as much concerned with the words of a song as with the music to which the words are set. Even then the artiste gives some consideration to the poetic theme. So, when the song is actually sung, it is given first to slow or medium time and the whole song—usually composed of two and sometimes of more parts—is sung once and occasionally twice or for more times, so that the poetic theme may without much difficulty be grasped by the audience.

When the song is sung thus, the improvisation or progression begins. The progression of Indian music is not a work of a rhapsodic improvisation as some-chiefly Western critics-suppose, but it has some well recognised principles to guide it. It is improvisation in the sense that it needs no rigid preparation as that of the Western system, in which there are many parts, which without a common understanding and previous direction may run amuck and entirely spoil the music. In India, 'the artiste himself is both the director and the performer and hence there is no academicism about him and his songs simply come off.' Thus the improvisation of Indian music allows greater scope for individual freedom than that of Western music.

Each one of the three unities-referred to in the previous chapter has its own reactions or demands on the progression of Indian music and let us view them in the same order as the unities themselves.

The first requirement of the first unity is about the correct intonation of all the intervals of the scale of the chosen Rāga. This is secured by a rigorous observation of the principle of tonality referred to in a previous chapter. Incidentally, the drone, being the instrument of reference, must have an unquestioned predominance in the accompaniment. Other instruments of accompaniment have a secondary place in Indian music, as these, on account of the instrument player's unavoidable lag behind the singer, are in most cases unable to accompany the music at all. Under the circumstances, the most they do is either to play the salient notes of the music or simply strengthen the drone. The instruments therefore lose their speciality as accompanying parts and simply converge as it were into the drone.

The next step is to make the best attempt to preserve the quality of the notes employed and make the music as much expressive as possible.

In the case of vocal music this is done by proper voice-training. In Indian music due regard is therefore paid to voice-training, but it is necessary to remember here that voice-training as understood in India is different from voice-training as understood in the West. In Indian music, as each song is cast in one definite mood and employs one scale viz that of the chosen Rāga alone, there are no sudden variations in the power and quality of the voice. On the other hand, it always seeks an opportunity to make a smooth return to the tonic note. In the Western system, however, the music is more of the dance-type and on account of the various parts develops a powerful mass of tone, and effects sudden changes in the mood. Again, imitation of the cries of birds and beasts, of the rustling of the

leaves or of the thundering of the clouds, of the surging of the billows or of the roaring of a brook. counts as musical performance in the West; whereas such performance has no place in Indian music. It is no wonder, therefore, if the voice production of an Indian performer sounds either hollow or monotonous to a casual listener who is normally trained in a diametrically different tradition. To return to our point, every Indian performer is expected to do his best in training his voice. This is achieved by including in the general training, a practical course in Ālāpa-making or *Vocalisation*, so necessary for the beginner to attain proficiency in vocalisation and for the advanced student to retain the proficiency once attained.

Voice-training.

The Ālāpa-exercises attach special importance to Resonance' and 'Poise' as these are the two essential things that develop the quality of the voice. Proper breath-control secures poise, whereas resonance depends chiefly upon proficiency in immaculate articulation. The Indian musician does not of course prescribe any particular exercises in breathing, but takes care to see that the Ālāpa-exercises are so graded as to develop the power of sustaining the voice with the greatest possible ease. He therefore makes it a point to avoid any jerks or shocks in voice-production and develops his capacity for sustaining the breath long enough by practising the vocalisation to slow time. For the purposes of resonance, proficiency in immaculate articulation is attained by a persistent practice in cleanly reproducing the vowel and consonant sounds occurring in the different words. Thus, every syllable is cleanly attacked and sustained for a while and is then

released with the utmost possible grace and ease. The few syllables, which satisfy all the expectations of such a practice, are specially singled out from the rest. The Nom-Thom lessons are meant for such a practice only. As these lessons form an integral part of the practical training of every musician, it is necessary to consider here the degree of scientific interest attaching to them.

Both vowels and consonants are vocal sounds and the musical quality of the voice is largely modified by their presence or absence. When breath, which throws the vocal chords into action, passes from the larynx on to the lips, it comes across the various resonating cavities in the mouth and causes the resulting sound to be amplified. The amplification is further modified by the position of the tongue and the degree of the opening or closing of the teeth and the lips.

These cavities consist of the Pharynx or the upper part of the throat, the soft palate, the hard palate and the nasal cavity. The teeth and the lips in collaboration with the tongue can be used with advantage to produce a good vocal tone. The strain on the vocal chords can therefore be reduced to a minimum by the judicious use of these cavities and by the proper control and adjustment of the tongue, the teeth and the lips.

Of all sounds, vowels require the minimum of effort; for, a vowel is breath unimpeded by any of the organs of articulation but only moulded or modified into different sounds by alterations in the shape of the mouth. In phonetics, vowels are often classified as *tense*, *medium* or *slack*. In music however, there is no need for such a distinction and it is enough to know whether a vowel is long or short, a single sound or a

diphthong. In Indian music, long vowels are preferred to short and diphthongs to simple ones.

Among the consonants, some are voiced and some are unvoiced. The voiced consonants are generated by the vibrations of the vocal chords, but the unvoiced ones are not so generated. The latter are purely mechanical sounds either explosive or frictional in nature. Thus the sound of T, P, etc. is unvoiced and explosive in nature. That of F, S, Sh, etc. is also unvoiced but is frictional in character. For every voiced consonant, there is a corresponding unvoiced consonant possible. In every day speech, only a few of the probable number of such sounds are used. Music, however, uses the unvoiced sounds with a distinct advantage and with an equal facility and purpose as the other sounds used in speech.

Of the vowels and consonants, a vowel sound can be indefinitely sustained without losing its characteristic effect. A consonant on the other hand is not a persistent sound, being practically a new way of commencing and ending a vowel sound. The requirements of a musical note are therefore fully satisfied by a vowel sound only and on this account all vocalisation consists in sustaining the vowels in the words, for a desired period of time. The consonants however lend a further charm to the quality of a pure vowel sound, by creating a variety in the attack and release of such sounds. In Indian music the effect is particularly happy when a compound consonant fuses into a vowel-diphthong, which is sustained for some time and then released. Thus some syllables such as Om, Nom, Thom, Hrom, Noum, Rheem, Dre, Dhṛ, Tom, etc. are traditionally used in vocalisation, as these offer special facility and variety of pronunciation, and are chiefly the syllables used in the

Alāpa-exercises. The reason why particular consonants are chosen for the purpose of the attack and release of the above syllables, will be clear from the following explanation.

All consonants, except the gutturals, are formed in the front part of the mouth. An easy control over the movements of the front part of the mouth is therefore an advantage in vocalisation. Firstly, it gives ease of pronunciation of a majority of the speech sounds and secondly, it amplifies the sound without the risk of giving *a shock to the glottis*. On this account the Indian musician makes it a point to place the tone well forward in the mouth. In the case of an average man these muscles get sufficient training even in the course of everyday speech, reading or recitation, and hence the importance of cultivating the habit of good speech, reading or recitation, from the very childhood. In Indian music, however, this training is not left to chance and a course in Nom-Thom or Alāpa-making is invariably prescribed for every student of music. The peculiarity of such a course is that it employs such syllables only, as would always place the tone well forward in the mouth and provide sufficient training for the voice. The syllables of the Nom-Thom-group are, as will be easily seen, of the required nature, as they are formed only in the front part of the mouth. Between themselves they include all the essential vowels both simple and diphthong and employ such consonants only as place the tone well forward in the mouth.

An Alapa moves both in pitch and time and is thus a simple form of musical progression, in which the two well-known principles viz. of rhythmic advance and procedure by determinate degrees are honestly followed. It is executed first to a slow, then to a medium and

finally to a fast measure of time. In an Ālāpa the dominant notes of a Rāga always receive special prominence, thereby making their comparison or contrast with the drone, quite distinct.

In the Dhrupada, (see Chapter VIII) the Ālāpas are given with the traditional syllables before the song proper commences. In the other types, they are given in the song proper and with the syllables of the words of the song itself. The Ālāpas are first very short and always end on the tonic note. Each successive Ālāpa gradually accommodates more and more syllables and hence accommodates fresh notes in addition and stretches over a greater part of the time-measure. The final link in the Ālāpa ends on the tonic and is followed by a fixed link, called the Jodāchā (joining) Ālāpa, which leads from the tonic to the burden of the song and thus completes the individual cycle of Ālāpas.

When the Alapas are sung, the Tānas or regular melodies begin. The difference between an Ālāpa and a Tāna lies in the fact that in the Ālāpa the salient notes of the Rāga receive special prominence, both in magnitude and time, whereas the Tāna proceeds by equal steps without preference for any one note. The simple Tānas are sung with a single vowel-sound advancing in pitch by the steps of the desired melody. They are followed by what are called Bol-Tānas i. e. Tānas in which the advance takes place by the vowel-sounds of the successive syllables of the words of the song itself.

The progress of both Ālāpas and Tānas takes place by four successive stages. In the first stage, the advance is by Ārohi-ascending-steps, in the second,

by Āvarohi-descending-steps, in the third by Sthāyee -stationary steps-the same note repeating itself, and in the fourth and the last by Samchari-roaming-steps. From the very ancient days, Indian theorists, without exception, have advocated that a fundamental difference exists between the processes of each of these stages, in point of both the quality or the character and the apparent pitch of the notes.

Thus in ascent, as we proceed higher, the notes become more and more vigorous and individual in character, whereas in descent the case is the reverse. Thus the *feeling tone* or the individual æsthetic value of the notes is different in the two processes. This is also one of the reasons why the *enharmonic* effect is distinctly felt in Indian music. This is especially true of the notes which are distantly related to the primes of the drone—the higher form occurring in the ascent and the lower one occurring in the descent. On this account the character of the note, though not much changing, does change slightly in the two processes.

In the Sthāyee or stationary form of progression, the same note is repeated several times over, but, between two such repetitions the neighbouring note-usually the one just below-throws its shadow. This is especially noticeable when the tonic or its Octave is repeated. In this case the sharp Seventh, acting as a leading note, as it were, throws its shadow between two such repetitions.

In the Samchari i. e. the roaming or complex form of motion, *enharmonic* changes do take place and can be determined by the same rules, only separately applied to each ascending, descending or stationary section of the melody. In short, it is not sufficient

to know the scale of a Rāga, but it is necessary to know further the different groups of notes, functioning in the Rāga, with their proper sequence of ascending, descending, stationary or Samchārī form of motion.

In an Ālāpa, the Meenda or glide is often employed and it may sometimes extend to a full octave or even beyond. In the glide, the voice or the note does not move by steps, but glides on continuously. This may apparently be considered as violating the well-respected principle of procedure by determinate degrees or steps. The contradiction is however only superficial, for, the motion of a glide has a twofold significance.

In the glide, the voice is stressed just when it passes up or down through the pitch of the legitimate notes of the Rāga-scale and remains perfectly smooth and gliding for the rest of its journey. The points of stress, therefore mark the beginning of fresh steps and thus form a legitimate piece of melody against the gliding background. Thus in a glide, the principle of procedure by determinate degrees is truly observed in spirit. In Western music also, the glide is frequently employed, in spite of the fact that the general theory of that system does not tolerate its use. Thus in the solo performances, particularly those on the violin, such glides are frequently played and as Prof. Blasserna tells us are played with great effect also. Then the general abomination of the glide may be due to the fact that in a system which is keen on harmony, a glide may become a source of great hindrance. The exact moment of stress seldom happens to be the same with different people, even in the case of a single gliding note and shall therefore be grossly missed in harmony where a number of notes are employed and are played by different people. To save music from such a travesty of things the Western system puts a general

ban on the glide. But as Indian music is homophonic, there is no such risk and hence it uses the glide freely and with distinct effect also. In a glide, except for the moment of stress, there is a general suspension of the notes and this establishes a sense of stretch or tension and creates a longing for an early relief being restored. The relief comes when the moment of stress just arrives or the suspended note or voice finally resolves into a well-defined consonant note of the Rāga-scale, usually the tonic. The glide therefore plays a great æsthetic role in Indian music and is a very favourite ornament with all performers.

As will be seen from the explanation of the nature of a glide, a note becomes legitimate if it receives special stress and duration or else it is merely a passing note and does not gather enough moment to make an impression at all. A note can therefore be pushed into the background or avoided in two ways, either by omitting it altogether or by using it merely as a passing note, without any stress or duration. This is what the ancient theorists of Indian music meant by Varjyatva or omission of a note. It is either by Alpatva i. e. by lightly passing over it or by Anabbhyāsa or Langhana, meaning total omission.

Thus, as remarked elsewhere, every Rāga is a special æsthetic scheme, having an individuality even in its physical form. So, in the case of Rāgas which are very close to one another, utmost care has to be taken to preserve their individual character intact. This is done by supplementing the Vādi-Samvādi arrangement and the melodic specialities or rules of each, by the proper choice of the Alāpas and Tānas, of their ascending or descending motion, and of the use of glides or other Gamakas.

We now come to the all important and ever interesting aspect of Indian Music viz. its capacity to make an emotional appeal. The Rāgas and their Rasas—emotional appeal—have been a subject of very close attention even from the very early days and ever since have given rise to fantastic notions and surmises about them. Thus, there have been a few who think that music is merely a passing show or a pastime and has nothing to do with the inner mechanism of emotions. There have been others who declare that music can give rise to any and every emotion and can develop it to any degree of intensity. There have been yet others, who would assign this or that emotion to a Rāga, according as it would please them. There is thus a mess of all things, with the result that there have been keen differences of opinion on the point.

The problem of the Rāgas and their Rasas or emotions is not however as elusive as is thought to be, and if attempted with the proper spirit of critical analysis, admits of a fairly rational solution. To begin with, the problem has a threefold aspect. Just as the seer of an object, the object, and the process of seeing are the complements of a single action, the musician (or the listener), the music and the process of performing (or listening) are the complements of one and the same action, resulting in a certain musical appeal.

Hence, the nature and the degree of the emotional appeal may have much to do with the peculiarities of each of these. The performer and the listener have a certain initial freedom of naming or choosing their own material viz. the Raga and the song etc., but having chosen the material once, they have to accept the law and order of the chosen theme as also its limitations. In music, sound being the medium, both the performer

and the listener need have a clear understanding of its laws and must, from the first, pay due regard to them. The skill of the performer then lies in interpreting these laws in as many beautiful ways as possible and in creating different beautiful orders and patterns, out of them. Though music thus offers great scope for personal skill and variety, yet under the veil of this variety, there is always that gracious presence of a unity, the unity based upon the observance of the physical laws. In considering the problem of Rasās therefore, precedence ought to be given to the laws of harmony over the likes and dislikes of individuals. These laws will ever remain what they are and will not alter like the tastes of individuals. Hence the problem of the relation between the Rāgas and their emotional appeal must be considered independently of the likes and dislikes of men. Further, it must in no way be considered from the viewpoint of the other arts, particularly of poetry. Its consideration has however been vitiated by such wrong notions and the vitiation is almost complete! Personal likes and dislikes tacked on unintelligible ancient practices, rivalry for doing the gigantic or humanly impossible feats, want of a general education or scientific grounding and a general conservatism among the artistes are mainly responsible for this sorry state of things! Those, who maintain that the problem of the emotional appeal of the Rāgas admits of no solution, either suffer from the above defects, or want to take undue liberty with the laws of harmony. From a purely rational point of view, however, the laws of harmony ought to primarily figure in the solution of the problem. Then it may be for the artiste to give, within the limited freedom allowed, such a setting to the laws as may best serve his motives. True art therefore lies in the intelligent

interpretation of these laws rather than in taking undue freedom with them, as also in not allowing the other arts to react on them in an unhealthy manner. Thus in analysing the problem of the Rasas, we must look for the seat of the emotional appeal in the laws themselves.

Consonance is the first and foremost consideration upon which the laws of harmony are based. Music therefore employs consonances for a pleasant and hence for a bright effect.

Dissonance, on the other hand, is jarring and deals a shock which the ear protests. So music employes dissonances for an unpleasant or a dull or sad effect.

For the purposes of Indian music, the degree of consonance or dissnonace generated by a note is easily determined by simply knowing how the note is related to the Tonic-harmony of the drone. As already investigated in a previous chapter, the resultant notes of this harmony are the first few harmonic upper partials of the fundamental note—which is the most powerful of all. Hence the comparison of a note with the tonic harmony of the drone is primarily a comparison with the fundamental note itself.

Then to determine the character of a note, the following two rules will suffice.

1 The physical appeal of a note is pleasant (bright) or unpleasant (dull or jarring) according as a note is a consonance or a dissonance.

2 The closer the harmonic relationship of the note with the tonic, the greater is the degree of consonance and the further the harmonic relationship, the

greater is the degree of dissonance, generated by the notes.

The following table gives the individual character of each note in relation to the tonic note, as per the two rules given above:—

1	Absolute consonances :-	Unison, and Octave
2	Perfect consonances :-	Fifth and Fourth
3	Medial consonances :-	Major and Minor Thirds
4	Imperfect dissonances :-	Major Second and Sixth.
5	Perfect dissonances :-	Minor Second, Minor Sixth, Major Seventh, Augmented Fourth.

In Indian music, the Minor Seventh is usually associated with the Fifth (or the Fourth) and then it is a medial consonance. In other cases, it belongs to the class of imperfect dissonances.

These two rules, then determine the individual character of each note. But as a Rāga does not employ only one note but necessarily employs a group of at least five to seven notes, what would be the Rasa or the feeling tone of the Rāga may seem to remain yet undecided. But it should be remembered here, that the Rāga-system is based on the idea that each Rāga is to give prominence to one particular note in preference to others and so should become the vehicle of what that note stands for. Thus in a Raga, the part played by the Vādi, being the most emphatic, survives to the end and maintains its swing and potency all along, by pushing the clashing detail out of sight, by less emphasis,

attention or prominence. In choosing a Rāga, therefore, its musical theme or better its emotional appeal is chosen as well, and the latter is mainly governed by the character of its Vādi or dominant note. The Vādi note therefore serves as an index, as it were, of the kind of appeal a Rāga may put forth.

As there are three types of notes, such as absolute or perfect consonances, medial consonances and dissonances, the corresponding musical appeal of the respective Vādi notes will also be of three different types.

The appeal would put on an openly gay and bright character for consonances, whereas for dissonances, it would be openly sad and dull or depressing. If the Vādi happens to be a medial consonance, the appeal would neither be very bright nor very dull, but would be intermediate between the two and thus would seem rather indefinite in character. Under the circumstances, the uncertainty, in the part played by the medial consonance of the Vādi note, is removed by stressing further either the consonant or dissonant notes from the remaining part of the Rāga-scale.

The consonances can be stressed in two ways, viz. by giving them individual prominence or by passing over the dissonant notes lightly or by omitting the latter altogether. The same is true of the dissonances also.

In this way, if the Vādi is meant to have a bright appeal, the consonances ought to predominate and if it is to have a sad or depressing appeal, the dissonances must receive greater prominence. The appeal would then be fairly definite in character. It would of course be not very powerful but would on that account be subtle and hence would require great skill and insight in its proper delineation.

In this manner, we can make music as much bright or dull, gay or depressing, as we like, by choosing the Vādi note in a suitable manner and accordingly impress the ear physically. But such music may not necessarily touch the mind nor move the heart. To do so, the mind has to be led from the purely physical into the æsthetic or emotional regions. To stir the mind, a centre of interest must be created and the interest must be further advanced by raising an expectation which when fulfilled offers great relief and makes for joy and pleasure. On the other-hand, the nonfulfilment of an expectation makes one uneasy and sad or miserable.

Interest may be created and further advanced by :—

1 The poetic theme.

2 Certain actions and expressions, as in a dance, or by

3 The power of tones alone.

Drama employs all these three together and is thus a mixed form of art. But in its purest form, each art employs its own medium and does its best in that medium irrespectively of the others. So, poetry employs only words, painting depicts certain postures or scenes, dancing employs only bodily actions and expressions. Similarly, music employs only tones and time, and through them develops the power to make an emotional appeal. In the fitness of things, therefore, the poetic and other bearings, although modifying the musical effect to a certain extent, have a secondary place in the consideration of the æsthetics of music as a pure art. The æsthetics of music must therefore concern itself with the intelligent use of different musical sounds on their acoustic merit only. This

merit, or the artistic potentiality of a musical note, depends upon the following :—

1 The harmonic relationship of the note towards the tonic or fundamental note, as also towards the other notes of the scale.

2 Individual tonal variations.

3 Individual rhythmic variations.

Thus under the first category, a comparison with the fundamental discloses the individual character of a note, as either a consonance or a dissonance and as previously explained, puts on a pleasant or unpleasant appeal. Next, the consonance of a note becomes more bright by associating the note with another which is less consonant than itself. If the note however is associated with another more consonant than itself, then the degree of its consonance is toned down

Similarly, a dissonant note, when associated with another still more dissonant, appears less dissonant and when associated with a note which is less dissonant or comparatively more consonant than itself, appears more dissonant by the contrast provided.

To make the contrast bold enough so as to easily attract the attention of a listener, the note, which is intended to receive greater attention, is distinctly hinted at, but is deliberately delayed by the intervention of a second note, which is sustained a little too long. This delay, at a critical moment when a note of some prominence is clearly hinted at, but is purposely avoided, establishes a sense of tension, to which the mind reacts by insisting upon its speedy removal and thereby shows a yet greater preference for the delayed note. This is a very favourite artifice of the

Indian singer and corresponds to the '*appoggiatura* of the European system. In Indian Music, if the Rāga is intended to have a bright appeal, the tension is removed by making a graceful return to the dominant note of the Rāga or more generally to the prime notes of the drone, which being the most consonant enliven the bright and gay character of the music. If however the Rāga is meant to make a sad or a pathetic appeal, the tension on account of the delaying note is allowed to remain for a much longer time or as in some cases, is not at all removed, nor does the delaying note necessarily lead to a consonance. The uneasiness therefore persists and is further aggravated, thereby making its effect more touching or pathetic.

In short, the notes of the Rāga-scale may be associated together with a double end in view. It may be either for toning up or down the individual character of one of them or may be for the purposes of '*appoggiatura*'. In the latter case, if the delaying notes finally lead to strong consonances, the effect is peculiarly pleasant. Such consonances are none other than the fundamental note and its Fourth or Fifth, which function as the prime notes of the drone. The Indian musician therefore uses the notes just preceding or following the primes for the purpose of leading the music to them. The leading notes are as a rule a semitone below or above the primes. Thus, there are six leading notes in Indian music, two for each prime note. Accordingly, the sharp Seventh and the flat Second act as the upward and downward leading notes for the tonic, the sharp Fourth and the flat Sixth for the major Fifth, and the major Third and the sharp Fourth for the major Fourth. European music uses generally one leading note—the sharp Seventh—for

leading to the next higher note, the Octave. Indian music, on the other hand, uses both the upward and downward leading notes with equal facility and uses not only one or two, but all of them, as required.

The individual character of a note may be further modified by effecting suitable changes in its tonal quality and by subjecting it to rhythmic variations. With the help of such changes it is possible to create several forms of musical expression, which may accentuate the appeal of the Rāga. By virtue of the tonal quality and rhythmic advance, different types of musical expression have much in common with certain every-day associations and experiences and on that account, lead the mind easily into the sphere of parallel activity and experiences from life. Such musical expressions, therefore, make the character and extent of the musical appeal more specific. Thus, bright and cheerful sounds remind us of joyful things, harsh and loud sounds, of anger or power, sad and subdued tones of sorrow, bereavement or fear and so on. The above experiences are intimately linked up with changes in the quality of the tone. There are other experiences which are linked up in a similar manner with changes in their rhythmic bearings. Thus, steady and sustained notes remind one of steady and peaceful things and a rapidly varying voice, of impatience or hasty action. A strained voice signiffes effort, a checked voice reticence or shyness, and a well-regulated speech shows clarity of thought and definiteness of purpose. Thus, by a judicious choice of the tonal and rhythmic forms of expression, the mood of a Rāga can be firmly established and music may truly become a vehicle of an emotional appeal of various degrees of intensity.

In Indian music, such changes are technically known as 'Gamakas' of which there are a few standard or stock-forms, which form a necessary part of the education of every student of the art.

So far, we have briefly considered the different æsthetic principles and artistic devices, that are usually employed in Indian music to make it fully expressive. Emotion in music must not however be missed for emotionalism. Emotion, if it is to be represented sincerely, must be understood thoroughly hence it must be always under the control of the singer's mind In its naked form, an emotion may sometimes gather so much force that it may become the cause of acute physical pain or undesirable organic sensations. Under the circumstances, the emotion becomes unbearable and hence unenjoyable. Music does not aim at representing the emotions in their naked form. If music were a blind imitation of life or were meant for awakening the animal instincts in man, it could have hardly provided the kind of gentle enjoyment it provides now, nor could it have made life any the better or nobler for that. In expressing any emotion, music tries to dominate its brute force through artistic expression. As an illustration, it should be noted that Folk-music and dances do put up a very powerful emotional appeal but fail to make any musical effect, worth the name. The emotional power is due to the crude and blind imitation of life in all its acuteness, which however, for want of domination through musical expression, apparently becomes uninteresting and often painful. It is on this account that barbaric or crude forms of music fail to provide any enjoyment 'in which there can be ecstasy without grimace or submission without tears'.

Refined music, therefore, does not stop with the mere generation of an emotion, but by uniting it with musical form, conquers its brute force; thus transforming it from a material into an ideal form. The Rasa or the emotional effect of a Rāga belongs to such a class of emotions. In the beginning, it seems to merge into common emotions but really turns out to be such as finds no existence in nature. This is why the Rasa problem of the Rāgas has become so naughty. For, to those who wish that the emotion must appear in all its acuteness, the Rāga-music would be gentle beyond toleration. To those who revel in gigantic feats and musical acrobatics, music may have no value as an art, but is a matter of mere pastime or sport. There are others who no doubt consider music as a great and noble art, but who see no reason why the mood, instead of remaining the same throughout, should not change at will, as in the music of the West. The mood of Western songs does change according to the impulse of the moment, but at the same time, it should be remembered that such changes are worked up by transposition at will, by the introduction of specially prepared discords not belonging to the scale proper and by other artistic means which the unities of Indian music cannot tolerate even for one moment. On the other hand, Indian music does not allow transposition, but insists upon using one and the same scale throughout, and of that scale also a chosen note or a particular consonance or dissonance is to predominate in preference to any other notes. Under these circumstances, it is no wonder if the mood remains only of one kind. So long as the Unities of Hindusthāni music remain what they are, the result cannot be otherwise. The inability to change the mood at will is however more than counterbalanced by the several

æsthetic means at its command, which enable the Indian system to depict the mood in all its details and to a rare degree of fineness also.

If one wishes for freedom of change of mood at will, one shall have to change the fundamental unities first. As an illustration, it may be stated here, that one and the same Rāga sung or played according to the system of the North and that of the South, sounds widely different. The difference is due to the fact that the South does not base its Rāga-system on the Vādi-Samvādi arrangement as understood in the North. The Northern way easily lends a gentle emotional character to the Rāga and makes it subtle yet reflective. The Southern way, on the otherhand with its fast time-measures and difficult mathematical elaborations and associations of the notes without preference for any one of them, makes it a gigantic affair of both mechanical and intellectual effort. This really justifies our conclusions as to why a Hindusthāni Rāga puts forth a specific emotional appeal and brings us to the end of this lengthy but extremely necessary discussion.

CHAPTER VIII

FORMS OF MUSICAL COMPOSITION

Indian music has from time to time evolved a number of forms for the expression of its manifold beauties. Beginning with the Sāma-Gāna which had seven distinct stages in its progression, forms such as the Vṛtta, Chanda, Geeta, and the Prabandha, became current in the years that followed. The Prabandha consisted of four parts such as the Udgrāha, Melāpaka, Dhruwā and the Ābhoga. The Prabandha form seems to have been current up to the late eleventh century, for, it is to this period of time that the famous Geeta-Govinda of Jayadeva, composed in the Prabandha form, belongs. These Prabandhas of Jayadeva have however only two parts—the Dhruwā and the Ābhoga—instead of all the four. It thus appears that the Prabandha form also was in a stage of evolution and was replaced in course of time by other forms, such as the Kṛtis and the Bhajanas etc. There is ground to believe that along with these classical forms of musical composition, there were simultaneously current some other forms also, which were rather free or loose in character and were perhaps the cause of much chaos, for a century or two after Jayadeva. The first to stop the rot was Rājā Māna (1486-1526 A. D.) who either invented or patronised the famous Dhrupada-style. This style, so well-known and respected even up to this day, was further perfected by great musicians like Haridās Swāmi and his famous disciple–Tānsen, in particular, and found great favour with Akabar's Court.

The Dhrupada–as its meaning indicates–is the strict style. A style to deserve the name strict must of course contain the essentials of a system in a clear and simple form, and it is so with the Dhrupada-style. It is laid down that in the Dhrupada, there must be no flourishes or embellishments in its progression, and that it should proceed by determinate steps only. In other words the Dhrupada strictly follows the two well-known principles viz. of rhythmic movement and procedure by determinate degrees. As already remarked in the preceding chapter, these principles actively figure in the Ālāpa-exercises, which the Dhrupada-singer in consequence must have thought as a fit prelude to the Chij or song proper. These Ālāpas do not as a rule employ any fixed time-measure but only observe the broad principle of rhythmic-advance, and are intended to elaborate the beauties of the chosen Rāga, in all its details. This practice of giving the Alāpas as a prelude to the song proper perhaps corresponds to the Udgrāha and Melāpaka stages, not met with or mentioned in the Prabandhas of the Geeta Govinda. Perhaps, they were then too well-known to need any mention!

To return to our point, the Dhrupada-singer first does his best in elaborating the chosen Rāga with Ālāpas, sung or played in the order described in the preceding chapter. Next he begins to give his Chij or song proper, at first to slow time. The poetic composition is so composed and set if necessary as to correctly observe the sequence of the long and short required by the chosen time-measure. This sequence does not admit of any variations on any account and at any stage of development. The poetic words of the composition are, as it were, screwed to a rigid framework in the form of the

time-measure. So, the song, though remaining academically pure, soon becomes uninteresting. The only opportunity for some relief is provided when a well-aimed return to the old time-measure is made after doubling, trebling or sometimes quadrupling the time or tempo of the song. Such changes in the tempo result in a variety of cross-rhythm and require great precision and personal skill.

The Dhrupada-style requires a manly and powerful voice, which must be further capable of sustaining its quality, in spite of the variations of time or tempo, mentioned above.

In the old days, a Dhrupada used to have four poetic divisions or parts, but at present it usually possesses only two and more in exceptional cases only. These parts in their order are known as the Sthāyee, Antarā, Samchāree and Ābhoga.

In the Sthāyee, bass notes are employed on a very large scale and the musical sentences and phrases first circle round the Vādi or the dominant note of the Rāga and then return to the tonic or the fundamental.

In the second part or the Antarā, the notes from the middle octave and particularly those from its second tetrachord are given free play, and the musical phrases first lead to the higher Octave and then make a return to the fundamental.

In the Samchāree or the third part, the music usually starts with the base note of the second tetrachord, then leads to the upper Octave, not with a straight and simple form of melody, but with artistic twists and turns and the melody thus oscillates, back wards and forwards, as it were. In this part also, the

notes do not go beyond the Octave and usually end on the tonic or the other prime note of the drone.

In the Ābhoga or the fourth part of the Dhrupada, the performer employs notes from all the three registers and tries his best to go to the highest possible pitch which he can reach with ease and effect.

At present, Dhrupadas consist of only two parts and it is in the second part or the Antarā that the performer does his best and compresses everything that otherwise used to belong to the remaining two parts.

As already remarked elsewhere, the poetic theme of a Dhrupada is usually very simple and is musical first and poetic afterwards.

The chief merit of the Dhrupada-style is in its strict adherence to the two fundamental principles viz. of rhythmic advance and procedure by determinate degrees. The constant aim of the artiste is therefore to make the highest possible effect with a few simple clean notes, unaccompanied by any flourishes, shakes or such other touches of grace. The Dhrupada therefore easily preserves the purity of the Rāga. It is thus a clean and correct form of music and rightly deserves the name "strict style" conferred on it, and is on that account held in very high regard by successive generations of musicians.

The chief defects of the Dhrupada-style are however its monotony and absolute denial of any scope for musical grace or delicacy. As no flourishes or embellishments, by way of Tānas or such other touches of grace are allowed, the Dhrupada soon becomes a self-recurring musical feat. Again, the variations of tempo

give the upper hand to rhythm over the tonal shades, which though manly and powerful soon become monotonous and wear out the patience of the listener in a short time.

Hori, sung in the Dhamār time-measure and on that account known as Dhamār itself, is another form of musical composition, which is similar to the Dhrupada in its structure and progression. The poetic theme of the Hori usually concerns itself with the playful incidents of the childhood of Lord Shri Krishṇa.

Another form of musical composition is the Tarana, which employs only the Ālāpa-syllables, viz. Nom, Thom, *etc.* The Tarānā employs tones for their tonal values and altogether ignores the literary or the poetic merit of words and so in one sense is an ideal form of purely musical expression. In the Dhrupada, the Alāpas which form the prelude are given to a very slow time and employ no fixed time-measure as such. The Tarānā is a refined type of such Alāpas, for it is sung to a fixed measure of time and is further developed as an independent Chij or song, of which the tones and not the words speak. As the Tarānā is a composition in a strict measure of time and must put up an appeal without the aid of poetry it requires great personal skill and ability of intelligent interpretation, on the part of the artiste. Since it is sung usually to a fast time-measure and employs numerous types of rhythmic arrangements, it helps the artiste to develop a subtle yet an accurate sense of rhythm and a facility of musical improvisation at a very short notice. Thus in the Tarānā, the slow Alāpas of the Dhrupada are linked up into different groups of melodic orders, which serve as model links for the Tāna and particularly for the Bolatāna, in

which the melody fully brings out the vowel and consonant values of the syllables employed. The Tāna or the melody consisting of such model links naturally preserves all the niceties of the Rāga. Other Tānas, based upon mere permutations and combinations of the notes of the Rāga-scale, do not possess the same merit as those described above. On this account, a few good Tarānās illustrating each Rāga are always in stock of every classical singer. The Tarānā thus serves as a training ground in acquiring facility in Tānas and particularly in Bolatānas, stretching over a fixed interval of time and on account of its ability to bring out the vowel and consonant effect fully, can give a good finish to the voice-training method previously described.

Thumri is another interesting form of musical composition. A majority of such songs employ scales which are usually met with in the Folk-songs and employ, as a rule, notes from the very nine consonances which principally figure in Folk-music. The Thumri therefore employs such Rāgas as Khamāja, Ḳāfi, Mānd, Pilu and others as are derived from them. It however seldom employs one particular or pure Rāga, as such, and in such cases employs a Jillhā or a mixture of two or more Rāga-scales and the nucleus for the Jillhā is supplied by some one of the Rāgas referred to, above. There are some Thumris in Rāgas like Bihāga and Kedār, but such Thumris are few in number. In fact the Thumri has a very restricted number of Rāgas to choose from. It never employs Rāgas which are manly and grave in nature nor does it employ Rāgas which are awful or sad and pathetic. Thus there are no Thumris in Rāgas like Darbāri, Mallhār or Hindol on the one hand, and in Bhairava, Todi, Mārwā, or Shri Rāga

on the other. Except perhaps Bhairawi, and Pilu, the Thumri does not employ a scale with the flat forms of the second and the sixth degrees and in Bhairawi, there is a tendency to lightly pass at least over the flat second. This shows that the Thumri employs scales in which the nine principal consonances mainly figure. The nature of such music is therefore bound to be bright and gay. The Thumri therefore has usually an amorous theme and describes some love affair. The Thumri is sung to a fixed time-measure, usually of sixteen or eight Mātrās. There are other compositions which are closely allied to the Thumri, but which employ some other shorter time-measure. They are on that account known by different names such as Dādarā, Kaharvā, Rekhtā, and Gazal etc. Their music though not much differing from that of the Thumri is not however of the same high order.

The Thumri proper is sung to a slow time and it is only for removing the monotony of rhythm, that the time is temporarily doubled or a Tāna is taken as a finishing stroke and then a return is made to the slow time.

The whole technique of Thumri-singing lies in passing from one note to another in a very graceful manner and particularly in introducing the Octave and the Fifth, which are deliberately delayed by the intervention of a less consonant note, used as a leading note.

The glide also is a very favourite ornament of the Thumri-singer and is specially helpful in introducing notes which need special treatment. Thus in a glide, the more important notes of the Rāga are stressed and the less important are lightly passed

over. As described in a previous chapter, the glide by suspending some of the notes is helpful in establishing a sense of tension which is removed only when it returns to the dominant note of the Rāga or to the fundamental or the other prime note and is on that account freely used to heighten the effect of the Thumri. The Thumri-form is essentially emotional in character, in spite of the fact that the scales used are plain and simple in form. What then makes the appeal so emotional? It is nothing but an ability to make the most of the æsthetic value of each note by a process of either associating, contrasting or suspending such notes in the light of the poetic theme. In a Thumri most of the æsthetic processes which have a root in the tonal touches are therefore actively present. Though simple in form and scale, the Thumri requires a great mastery of these delicate processes and hence is the meeting ground of the best in the Folk as well as the Classical type of Indian music. It is no wonder therefore that within its very limited field of Rāgas, the Thumri is equally popular among both the masses and the more advanced classes.

The next form of musical composition is the Tappa. It employs the same Rāgas as those of the Thumri-form. Its field is therefore very limited. The Tappā does not aim at a slow or gradual progression of the theme, which is usually in the Punjābi or Pushtu-language. Even from the beginning, it revels in ornamental flourishes at the occurrence of almost every accented portion of the bar—usually signified by a long vowel—and builds up the melody by elaborate turns and trills rather than by a glide which is scarcely used in a Tappā. The turns and trills are

known as 'Murkis' of which there are several subvarieties, such as Khatkā, Gitkadi, Jamjamā, Sānsa, Ansa etc. These Murkis are a speciality of the Tappā and provide good practice in developing vocal facility in singing several kinds of delicate Tānas. The one point, to be remembered about the Tānas or melodic flourishes of the Tappā, is that whether the Tāna is simple or ornamental, the successive links, taken up or down, are taken step by step only and without any break between them. A melodic or ornamental phrase begins on a bar and continues over its full extent. Then another phrase begins on the next bar and continues over that bar and in this manner the melody moves over all the four bars or stages or spans of each cycle of the Tappā-measure. Tappā literally means a stage or a halting place on a journey and since there are four such stages in the Tappā measure, the style is named as Tappā itself.

We now come to the most important form of musical composition viz. the Khyāl, which, for the last two hundered years and more, has almost monopolised the attention of the best musical brains. The Khyāl is composed in a number of time-measures such as the Tilwadā, Zumrā, Dheemā-Tritāl, Adā-Chautāl, Ektāl, Tritāl, Zaptāl, etc. The Khyāl has two varieties viz. the Vilambita or the great Khyāls and the Ekeri or the short ones. Whatever the variety, a song in either has two divisions viz. the Sthāyee and the Antarā.

The great Khyāls, of course, employ the longer time-measures and are sung to slow time. These were first derived from the Dhrupadas and have therefore to be developed in the beginning much along the same lines. The slow, steady and sure development of such Khyāls enables the music to preserve its serenity and weight as

in the Dhrupada-style. After singing the Sthāyee once or twice completely, the Antarā is sung once, so as to enable the listener to grasp the poetic theme without much trouble. Then a return is made to the Sthāyee. At the end of the first phrase which usually leads to the Sam or the chief bar of the Sthāyee, Ālāpas are gradually appended. The Ālāpas at first extend over two or three notes only and so are very short. They usually extend to the Vādi or the dominant note of the Rāga, failing which to the subdominant or the Samvādi note. The second Ālāpa is given by adding one more note to the first the note to be added being the next higher or lower note according as the Ālāpa first ascends or descends. Three such Ālāpas are given and are followed by the first phrase, which closes the cycle on the chief bar of the measure. Then the Ālāpas grow gradually longer and extend beyond one cycle of the time-measure and a corresponding change in the point of their start is previously contemplated over, so as to end them in time and return the music invariably to the chief bar without fail. In such Ālāpas the glide is frequently employed with great effect. After singing the simple types of both the ascending and descending Alāpas in this manner, a start is made with the Vakra or more elaborate Ālāpas. Having done with them also, the Ālāpas are given to faster--usually--duple time, so that they generate simple Tānas out of them. When the principal types of such Tānas are sung, the Sthāyee is sung once again, to indicate the end of the first stage in the progression.

Then the Antarā is sung and a process similar to that of the Ālāpas in the Sthāyee is followed, with the only difference that such Ālāpas begin on the base note of the second tetrachord or if the dominant

is very close to it, on the dominant and end on the upper Octave instead of on the tonic note. This may bring to the notice of the reader that there is a close similarity between the Antarā of the Khyāl and that of the Nom-Thom-Ālāpas in the prelude to the Dhrupada. After elaborating the Ālāpas in all their details, a second return is made to the Sthāyee or the first part of the song. This time, the Ālāpas are elaborated not by lengthening a single vowel sound, but are given with constantly changing vowel sounds, which are further enriched by their association with the consonants occurring in the words. Such Ālāpas are called 'Bol-Ālāpas.' By and by, at the end of each Bol-Ālāpa, small Tānas are appended and these become gradually longer and more frequent. The Tānas replace the Alāpas completely, just when the latter are almost exhausted.

The third stage now begins, when a full and free scope is given to all kinds of Tānas which of course obey the same order of precedence as the Ālāpas, both in the tempo and in the directlon of motion. In the Tānas, there is always a point-to-point race between each new step in the melody and each Mātrā or time-span allowed to the note or a group of them and the excellence of the performance lies in the perfect agreement between the two. Such an agreement alone holds the balance of the song. To relieve the monotony of the Tānas, the performer occasionally sustains the most consonant notes such as the Octave and the Fifth and stays on them long enough-say for a half or one whole cycle of the time-measure. In reaching such notes, the major Seventh and the sharp Fourth are often used as leading notes, which brighten the music still further. Another way of

enlivening the effect of the Tānas is to intersperse them with Gamakas and particularly with glides which often stretch over an octave and more. These relieve the listener, for a time, from the rapidly advancing rhythm. The strong assertion and sustaining of the fundamental note and its Octave or the Fifth serve another musical purpose, in that they help the performer to maintain intact his sense of correct intonation and allow him some time to think over fresh methods of improvisation.

In the fourth or the final stage, all kinds of Tānas of both the simple and the Boltāna-type are executed in all their complex forms. In such Tānas there is usually a fusion of the two types. They generally employ quadruple time and embrace as much of the three registers as may be possible for the performer, who is expected to do his best, in point of both the elegance of the performance and the rapidity of time-keeping.

To the second variety belong the Ekeri or short Khyāls, which are usually in medium Tina-Tāla and are first sung to medium and then to fast time. These Khyāls have comparatively lighter themes such as those of the Thumris. Usually they are so composed as to accommodate one syllable in one Mātrā or unit of time or in its smaller subdivisions There is therefore hardly any scope in such Khyāls for slow Ālāpas or Tānas and still less scope for a glide. Such short Khyāls therefore are not ideally complete units in themselves, in as much as they are capable of only such development as belongs to the third and fourth stages in the development of the bigger Khyāls. The usual practice therefore is that a bigger Khyāl is fully developed over the first two stages and is followed by a short one, which develops the third

and the fourth stages further. The third stage requires faster time and then it becomes a little awkward and inconvenient to give a bigger Khyāl with a grave theme originally meant for a long and slow measure of time. The bigger Khyāl is then purposely brought to an end and the remaining part of the progression is given with the new or the shorter Khyāl, which is then taken up as a continuation of the bigger one itself. It is for this reason that the Khyāl style uses a Jodi or pair of songs to bring out the full beauty of a Rāga. It first uses a bigger Khyāl for the more serious and steady part of the development of the Rāga and then a short one for depicting the lighter and more rapid portion of it.

From the above remarks, it will be seen that there is great similarity in the development of a Khyāl and a Dhrupada at least in their first half. As the Khyāl employs the glide and the other technique of the Thumri, it incorporates in itself some features of the Thumri also. In the Khyāl, the Boltānas and Tānas employing Gamakas remind one of the Tarānas too. Again as the Khyāl offers full scope for executing Tānas both short and long, simple and complex, with trills and shakes and such other forms of grace, it has much that belongs to the technique of the Tappā.

In short, the Khyāl-style incorporates in itself the very best of each form of composition and on that account easily surpasses the other forms. This is the secret then, why the Khyāl of all forms has been receiving the homage of all music lovers for the last two centuries and over.

The forms of musical composition previously described may not have been really new forms altogether. They are really reminiscent of the five forms which were

current in the days of Sārngadeva (early 13th century). These forms were known by the names, Śuddhā, Bhinnā Gouḍi, Vesara and Sādhāraṇi respectively. Śuddhā means the plain or pure, Bhinnā means the broken meaning of clear cut notes or steps, Gouḍi means the sweet, Vesarā means the rapid and Sādhāraṇi means the golden mean or the form which embodies the essential features of each of the previous forms. From the detailed description as given by Śārngadeva, the Dhrupada and the Dhamār compare well with the first two, the Thumri with the Gouḍi, the Tappā with the Vesarā and the Khyāl with the Sādhāraṇi form of musical composition. Thus the Khyāl may be said to be the Sādhāraṇi or the golden mean of all the present-day forms of musical composition.

Besides these, there are several other minor forms which however are not academic in character and are often very loose in structure. Their progression has not therefore the same broad basis as that of the classical forms and their merit lies chiefly in the poetic rather than in the musical expression of the theme and in the rapidity and grace of their rhythm.

CHAPTER IX

SOME SIDE ISSUES AND RETROSPECT

Rasa in Music

Let us now briefly examine the subject of Rasa in music as expounded by our traditionists. According to them, there are nine principal Rasas or types of æsthetic enjoyment, corresponding to the fundamental sentiments of love, laughter, tenderness, anger, heroism, fear, obscenity, surprise and peacefulness or rest and their accompanying emotions. Bharata mentions the first eight but excludes the last one from the list of his Rasas obviously because a state of continuous rest would not foster the object of a drama which necessarily implies action. As Bharata was mainly concerned with Dramaturgy, the Santa Rasa was of no use to him in that respect. Is Bharata however justified in specifying eight Rasas in music as well? Music as defined by him consists of song, instrumental music and dancing. The appeal of a song comes mainly from its wording or the poetic sentiment and that of dancing from facial expressions and other bodily movements. Thus excluding the part which refers to instrumental music, Bharata's definition makes music play a role essentially subsidiary to that of poetry or dancing. We have gone ahead of Bharata in considering music as an art of pure sound and rhythm and as one independent of poetry and the other fine arts. Thus love, obscenity and laughter, which can be suggested only by appropriate words and facial expressions and other movements drop out from the Rasas which music in its unaided and pure form can contribute. By itself

music is always a clean and godly art and it is only poetry and dancing that frequently contaminate it with voluptuous and obscene words or acting.

Of the remaining five Rasas, the Raudra (anger) and the Bhayānaka (fear) are possible in the case of music with very powerful sounds of an unusual intensity, pitch and roughness. Such music can be only of the mass-type in which a number of performers can easily build up the bold effects, by the massiveness and vigour of music, both vocal and instrumental. The music of the marches, war-songs, Powādās etc. is an instance of this type, commonly cited. There are however numerous occasions in every-day life too, when we happen to come across such music. Thus the music of the shepherds' bands, of the Lejim, Karadi or Karandhol—players, of the Kadak-Laxmi and the Durug-Murug men and the Dombāris etc. belongs to this type. Such music is however extremely rough and approximate and is therefore far below the minimum of artistic expression necessary from the view-point of refined music and so is out of question. The heroic sentiment, tenderness and surprise are the remaining Rasas from Bharata's list to which the field of classical music is then narrowed down. As for surprise, music can contribute it to any extent, but it comes not from the native qualities of sound and rhythm, but as in magic from the skill in doing the most unexpected, quickly and successfully. So, Adbhuta drops down from the Rasas that music may contribute due to its native qualities. Karuṇa-the tender, and Veera-the heroic-are the two Rasas that yet remain to be considered from Bharata's list. As explained at some length in a previous chapter, the appeal of music is openly bright or sad according as it employs consonances or dissonances for its principal notes. The consonances

suggest a complete and vigourous accord with the tonic harmony of the drone, whereas the dissonances, on account of their deviation from it, pointedly suggest a sense of want or destitution leading to pity and pathos. Concord is however the fundamental quality of all music and so sometimes passes unnoticed. But this is not the case with a discord, which instantly seizes upon the mind even of the most inattentive listeners-lay or cultured alike. Even of these two Rasas that spring from the native qualities of musical sounds, the Karuṇa thus outweighs the Veer in its quickness, power and unmistakable appeal.

As regards the Śānta Rasa which according to Bharata has no place in Dramaturgy, we have reason to say that as all music is given always within the limits of artistic enjoyment, it invariably brings a sense of relief and comfort to its listeners. Music does this more quickly and effectively than any other art. The Śānta Rasa therefore is a quality inherent in all artistic expression, which, when not mixed up with intentional bold touches of other sentiments, comes up to the top and caters the joy of ease and comfort and thus affords the feeling of escape to its listeners. In fact it does much more in the case of cultured and thinking people. It easily transports their mind to levels of higher consciousness where pain and pleasure lose their acuteness and blend into the all-pervading harmony and rhythm of universal peace and self-effacement.

What we therefore name as the Santa Rasa, (as one of the many Rasas) is really a state or experience which the listener enjoys as the culmination of the æsthetic appeal.

Music and Poetry:—Music and poetry are two independent but very closely allied arts. For the pur-

poses of an artistic effect, each may be employed either in its pure form or in combination with the other. But as a rule, every art has certain charms patent to itself and has also a medium of its own, in which it can show them better than in any other. When however one art works in combination with another, the appeal seldom remains pure and frequently changes the medium of expression also. There is no doubt that in certain cases the appeal becomes powerful and rich by such a combination, but on the whole, it is found that each art is unduly hampered by the other and finds little scope to show its beauties at their best. In the few cases in which the appeal becomes rich, one art really borrows from the other what does not normally belong to itself. When however it is expressly desired to explore the possibilities of a specific art and find out its limitations also, it is necessary to restrict the study of that art to its pure form only. In fact, it is this view which has been adopted as the basis of all consideration in the present work. We however often come across people who have very vague ideas about the function of music and who conveniently ignore this aspect of its study. The cause of all trouble is in the fact that there are many things common to both music and poetry and these often obliterate the line of demarcation between the two. Thus when the art of writing was not known to mankind, poetry used to be recited and as a matter of necessity had to use the medium of sound only. But as music also employs the same medium it was thought—as even now some think—that the nature of each art must have been the same. But really this is not so, since poetry uses words for their sense, while music uses them for their sound. In the infancy of every language, there may have been some little agreement between the sound and the sense of words, but as we can now see, this agreement must have been of a very

elementary character. At present, however, with the knowledge of the art of writing, words have as much to do with sight as with sound and poetry may be appreciated to the same extent either by reciting it aloud or by reading it in a silent manner. The meaning of a word is the result of an arbitrary choice and hence of convention and is not in the least dependent on the laws of either sound or light. Such meaning does not fundamentally differ if the word is either read or spoken aloud or is spoken by different persons of different ages etc. Similarly a clear or sore throat makes no difference in its meaning, which again remains the same even if read under lights of different hues. Hence the power behind a word has its root in our associations which have nothing to do with the medium of sound or light. Music, on the other hand, entirely depends upon the medium of sound and the power behind a musical note or phrase has its origin in the qualities and processes of musical sound itself. Hence it is clear that in their pure form music and poetry are altogether different forms of art. But with many people, it is the fashion to look down upon music as the handmaid of poetry or to suppose that "in the wedding of the arts poetry is the man and music the woman." In fact poetry can as well be made the handmaid of music and follow its dictates. In classical Indian music at least, it is so. As a Rāga is cast in one mood throughout, only such songs of which the poetic theme agrees with the mood of the Rāga are eligible for being sung in that Rāga. Songs of which the poetic theme is unsuitable for the mood of the Rāga are not at all eligible, even though they be the best examples of the poetic art. Here then, music dictates the mood to poetry and if poetry does not obey, music disregards the meaning of the words altogether and develops the mood, purely with its own material and processes.

The appeal of music is however primarily based on the physical effect of consonance and dissonance and is therefore broadly pleasant or unpleasant in character. Music therefore supplies the mood but not the cause or the exact feeling at its bottom. Therefore, it may appeal to such emotions only of which the nature is openly bright or sad. Hence consonances may rouse in a broad manner a feeling such as of joy, pleasure, hilarity etc. In the same manner a feeling of pain, pathos, destitution or submission etc. may be awakend, through dissonances. Poetry, on the other hand, not only supplies the mood but also the exact feeling. But the inability of music to awaken a variety of feelings is more than compensated by its quickness and power to make a given feeling as specific or delicate and precise as possible. In this respect the power of music far outweighs that of poetry. 'A thousand shades of what–in our blundering words, we must call sadness or mirth–find in music, their distinct expression.'

Light music:—But as is the common experience, there are bound to be only a few who can understand the subtle technique of classical music and fewer still who may have the good luck of being initiated into its traditions. To the majority, who cannot have any opportunity of such a training, the cause of artistic pleasure must be more specific, direct and tangible Facial expressions, bodily movements or certain other gestures appealing to the primary emotions of man, or a simple poetic idea or a speech serve as good short cuts in this respect. This is how dancing, and poetic improvisation came to be considered as necessary adjuncts to music and among them poetry is the simplest and the most direct. It is on this account that such music, in which poetry predominates over the technical (purely musical) processes of classical music, is easily under-

stood by the populace and is therefore known as popular or light music. The songs of light music have an obvious time-beat and having no musical technicalities run on along with the poetic words like the horses on a race-course. As light songs do not employ any particular Rāga as such, their music is obviously of the Jillhā type. In such music the change of the Rāga is necessitated by the impulse of the poetic theme. Light music, therefore, truly acts as the hand-maid of poetry and functions as a *via media* between the Folk and Classical types. Light music is indeed the starting point of stage-music or the Opera. Another variety of such music which has come into vogue is Film music. The music for the film must be woven out of the emotion and the psychology of the moment and must be part and parcel of the scène or image which is being presented. It must therefore be a thorough representation of the spirit of the picture in point of its tones and rhythm as well. As these forms of light music constantly undergo a change of mood and technique, classical music, (of which the strong point is to pursue one set mood to a steady and harmonious accompaiment as that of a drone,) is not of any use to them. Here, our composers shall have to study the technique not only of Indian but of Western music also.

Concerted music or Orchestra:—At present there is a tendency among Indian artistes towards orchestral music and this also may need the study of Western music, for its growth and guidance. In the absence of such a study, the so-called Indian Orchestras of to-day merely multiply one-part music on a huge scale and evidently fall flat upon the ears of the listeners. There are however some Rāgas which may admit of the harmonic treatment, so essential for con-

certed music. But instead of exploring the potentialities of the Indian Rāgas in this quarter, some of us, who have studied harmony, try to apply the non-modal harmonies of the Western system to Indian music, which goes not only by modes but by their still finer variations—the Rāgas also. Adaptation of the Indian Rāgas to concerted or orchestral music then offers a large field for research and co-operation to students of Indian as well as Western music.

Notation:—Concerted music necessarily requires the casting of each part into accurate notation, and this brings us to the most important issue of the want of a commonly-agreed form of musical notation. At present including the staff-notation of the West, there are about half a dozen different forms of notation, which can express the outline of an Indian song in a fairly good manner. The staff-notation is not however popular among the Indian artistes and perhaps rightly so, because the question is not one of adopting notation as a new feature altogether. For centuries past, Indian music has been using some form of notation similar in nature to that of the Tonic-solfa type of the West, and it is out of this ancient form that the different forms now current have evolved. Under the circumstances, though there is no unanimity about adopting a particular form as the standard one, yet there is perfect agreement in the rejection of the use of the staff-notation. The want of a standard form of notation has however checked the progress of Indian music and has till now served as a good pretext in turning down the public demand for the inclusion of music in the courses of regular study. Let it however be plainly stated here, that Indian music being of the solo-type is absolutely plain and simple in its form and does not need a very elaborate type of notation to

express its general outline. As for expressing its details, however, no amount of skill and insight can design a notation which may serve as a true vehicle even of a small fraction of all that the artiste means. Indian music is fundamentally vocal and much of it is the result of individual improvisation. As is well known the capacity of the voice for inflexion and subtle variation in tone far surpasses that of any instrument and hence the real charms of Indian music are to be met with in vocal music only. They are on this account too subtle to be correctly reproduced by the instruments or accurately and fully recorded into notation.

Under the circumstances, it has been the experience of many thinking people that any form of notation is as good or bad as any other and that a pupil can pick up the several forms, provided he understands the signs and symbols used in a thoroughly intelligent manner. Again the teacher must not stick to any one form of notation and must never make more of notation than of the spirit for which it stands. Otherwise, the pupils-especially young boys and girls-develop preference for one form of notation only—usually the very first taught to them—and develop a mechanical ability of giving long chains of notation, without a grain of any musical quality or sense. Here the old custom of teaching music first by the ear-method is of special value and is followed by many good teachers of music with great advantage. According to that custom, for the first few months a student is taught music by the ear-method and when he develops sufficient delicacy of the ear and voice to pick up and reproduce accurately all that is taught, he is initiated in the art of appending notation to the pieces already mastered. There is then no danger of the pupil's missing any of the charms of the song, which are

ordinarily beyond the reach of notation. Again if the teacher makes it a point to express the selfsame song according to the different types of notation, then there is no chance on the part of the pupil to develop preference for any one type, as such. On the other hand, such a practice affords very good help to memory and brings to the notice of the student the relative merits of each form of notation.

In this connection, it may be mentioned here that the Committee[1] for Music Education, appointed in 1948, by the Government of Bombay, has fully investigated the question of music-education, in general, and as the result of the unanimity of oral evidence and the other information given by the experts, has proposed for Indian music a standard form of music notation, in particular. As this form embodies the salient features of all the current forms and is yet simple to follow, it has found unanimous approval in the province and as such deserves to be adopted as the standard form of notation for Hindusthani music throughout India.

The choice of a *free principle of style* and its effects on Music Systems:—A system of music can start with any free principle of style as its basic principle and then the application of that principle governs all the developments of that system. In this respect, it is interesting to compare the Indian system with that of the West.

Both these systems follow what is commonly known as the principle of tonality. According to this principle whether the music is or is not given in a Rāga, all the tones in a piece of music are connected by their relationship towards one chief tone called the tonic. Broadly speaking the individual relationship of the tones may be one of consonance or dissonance. Thus

a set of notes all with a consonant relationship towards the tonic may be chosen, or another of which most notes are consonant and a few dissonant or vice-versa, or a third with all dissonant notes. The broad principle of tonality is not in the least violated so long as the music honestly observes the given set of relationship of notes. Thus some sets may be perfectly consonant, some more or less consonant and others perfectly dissonant. Western music uses only the consonant sets. Indian music uses all the three types of sets, only that the dissonant sets are as a rule not widely used, but are used with special precautions only.

A set of notes with a given relationship in our ordinary language however means a scale. Hence the Western system uses only the consonant scales of which the notes belong to a cycle of harmonic relationship which starts from and returns to the tonic note itself. Its field of action is therefore restricted to the province of these harmonic scales only, with the result that it cannot introduce discords or quarter-tones as quickly and effectively as Indian music. Notes foreign to the scale have to be first prepared for, before being introduced and have then to be resolved before making a return to the original scale. This is really a very laborious process and requires transposition to different keys. In Indian music on the other hand, the Rāga-scales freely choose discordant notes as legitimate members of the scale, and thus allow a facility and quickness in introducing discords wherever needed. This makes the appeal of Indian music almost instantaneous,—though of a set type also, as no transposition or divergence from the chosen scale is allowed.

The adoption of harmony as the principle of style has reduced the choice of scales to two viz. the Major

mode and the Minor mode and has deprived the Western system of a great variety of expression which depends on a diversity of scales. But this has opened to that system new avenues of artistic design, in another quarter. Indian music on the other hand, with its numerous scales, is very rich in the field of melody, but cannot change its mood as it has to stick up at one time to one given scale only, and although the use of a drone lightly hints at the principle of harmonic relationship, has no harmony at all in the Western sense of the word.

As for the relative merits of each system the best way is to reproduce what Dr. Helmholtz says at one place, "We must not forget that our modern system was not developed from a natural necessity but from a freely chosen principle of style; that beside it and before it other tonal systems have been developed from other principles and that in such systems the highest pitch of artistic beauty has been reached by the successful solution of more limited problems."

The Drone as the starting point of Indian music:—

In a previous chapter attention was already drawn to the various difficulties in the way of arriving at the Śuddha-scale of Indian Music and in adopting that scale as the basis of reference for the purposes of fixing its intonation. These difficulties however are of a theoretical character only and lose most of their acuteness in practical music, as every student of the art first learns it by the ear-method and hence unconsciously masters all the desired niceties of intonation as required by each particular Rāga. To keep his sense of tonality firm and quite intact, he further uses a simple device of employing the drone as an essential harmonic background to his music. His ideas of intonation are

therefore linked up with the scales of specific Rāgas in relation to the background of the drone. His language of intonation also goes by Rāga-scales and not by vibration numbers or intervals. When he means a particular degree of sharpness or flatness of a note, he invariably *refers to it* as the note corresponding to *such and such a note in such and such a Rāga* and so on. Thus it is that with the help of a few well-known Rāga-scales he fixes his ideas of intonation. But as there are only seven or at the most twelve common names by which the seven notes of the octave are known, all these different variations in the form of a note are broadly known by one of these seven—or twelve—stock names. But this must not be taken to mean that music uses these seven—or twelve—notes only and does not use others besides them. Nor does it mean that if it uses other notes, then their variations are so small that for all practical purposes they can be conveniently neglected. On the other hand, it is found that a student of Indian music,—and one even of a very moderate capacity for that matter, ordinarily uses a much larger number of notes than twelve and all these are appreciated and felt by the ear, as distinctly different notes, both individually and in their relation to the several Rāga-scales, also. Yet Pandit Bhātkhande bases his system of Hindusthāni music on twelve notes only. Mr. Clements is therefore justified when he refers to Pandit Bhātkhande and remarks that though 'the exponent of the Art of Melody recognises twelve notes only, the Art of Melody must not be confused with intonation or the Science of the Shruti.' So, Mr. Clements made it a point to verify the scale of each individual Rāga, with the help of a Dichord, and demonstrated in a practical manner the truth that Indian music uses a far larger number of notes than twelve. Of course the method has a great academic value, but it is not in

any way connected with any surviving ancient practices, nor does it hint at a central principle which serves as a base of all the physical or æsthetic processes of the Indian system.

In the present work, however, the employment of a drone as a necessary back-ground, for all music, has been made the basis of all the processes of the system and of the conditions governing the Rāga-system also. As already mentioned elsewhere, the practice of employing a drone is a very ancient practice and still serves as the very basis for maintaining the sense of tonality of the present-day music also. Further it gives the essential consonances of the system and discloses that in Indian Music there is no scale which is ideally consonant and which at the same time obeys the condition of symmetry in its two tetrachords—a condition which every Rāga-scale is required to obey. The Suddha scale of Indian Music is not therefore an ideally consonant scale. In practice also, we do not come across a Rāga which employs a perfectly consonant scale, such as the one given by the Major Mode of the West. The scales of Indian music are then chosen in a more or less free manner. Again, the observance of the rules governing the Rāga-system is not a matter of natural necessity but is the consequence of referring that system to the accompaniment of a drone. If the drone were tuned in ways other than the conventional ones, then even though a Rāga-scale may remain the same in point of the pitch and intervals of its several notes, its character does undergo a total change. This means that the standard of tonality changes according to the change in the tuning of the drone, or that the tonality of Indian music is not of a fundamentally fixed character but appears to be so, because of the conventional manner of tuning the drone.

This is why the drone was given the first place among the unities of Indian music.

Besides the conventional ways of tuning the drone, it may be tuned in other ways also, such as by taking the other notes of the scale, for the auxiliary note. Thus the drone is sometimes of the E-type and is employed in Rāgās which omit both the major Fifth and the Fourth, and take the major Third as one of their principal notes. In such cases the drone does not make much difference in effect for that particular Rāga, but if employed for others, in which the major Third is either absent or has not the same significance attached to it as in the former, the effect is beyond doubt different and in most cases spoiled also. This is perhaps the reason why the third type of tuning viz. the one according to the Gāndhāra-Grāma, was abandoned even from the very ancient days. Yet from the academic point of view, it is desirable that the student should experiment with all possible types of tuning the drone. This will at once bring to his notice that theoretically many different schemes of tonality are possible, and the two in vogue, being the most harmonious of them all, are consequently adopted as the standard ones. Of the two again, the tonality of the G-type being the simpler and more direct is naturally adopted for almost all the Rāgās and that of the F-type, in exceptional cases only.

Yet another variation of the drone is to tune the auxiliary wire to the note which a Rāga essentially omits and transpose the music to the auxiliary note as a new base. In Mālkansa, for instance, which omits the Fifth, the conventional way is to adopt a drone of the F-type. But according to the present suggestion, it is to be replaced by the G-type, and the music is to be transposed to the note G, serving as a new

base. It is found that this lends a new charm to the Rāga, without spoiling any of its beauties, and allows transposition at will between the old and new bases also. Similarly in Bhūpa, which omits the Fourth, the drone may be of the F-type instead of the G-type, which is conventionally employed for that Rāga. If the music is then transposed to the note F, given by the auxiliary wire as a new base, the effect of the Rāga is not at all spoiled but turns out to be really pleasant and of a novel character also. Of course, such cases may not be very large in number, but a knowledge of the process may easily bring to the notice of the student the significance of transposition in music and may perhaps open some new field for extending the present-day Rāgas in other directions also.

Retrospect.

Indian music is a very ancient art and has an interesting history behind it. As in the evolution of the other arts, feeling, fancy and inspiration played a great part in its early development and science came on the scene much later. Hence it is, that science is unable to explain some of the earlier practices, and their justification comes only through tradition, inheritance or association. This being so, the theory of Indian music could not at any stage of its evolution reconcile itself wholly with the practice of the Art. The ancient writers however felt a necessity of bringing the two as close together as possible and in doing so resorted to ways and means, which sometimes resulted in diametrically opposite interpretations of one and the same thing. Again a growing art was bound to undergo many changes in the course of its development. The above causes explain why the theory and practice of Indian music did not always go together hand in hand, and

why the writers on Indian music, belonging to different epochs of time, could not but widely differ from one another. Another great ordeal, through which Indian music had to pass, was the reaction of the Mohammedan culture. But as we now see. its contact with the Mohammedan culture only extended its possibilities but allowed its essential features to remain intact, for the simple reason, that the foundations of the art had become sufficiently solid by that time and that most of the first generation of the Mohammedan artistes were elderly Hindus, later on converted to Islam. Last but not the least, our contact with the sciences of the West had its own reaction—among other things—on Indian music also and has provided us with specific and more critical standards of judgment. As a result, it may be said that Indian music is largely benefitted by this contact and so far at least has no cause for any repentance for the same.

Music, in general, forms a most necessary link in the great family of Arts and every student of it ought to know the nature and limitations of its function. For the purposes of an academic study like the present one, music must be studied as a pure art and not in its relation to the other arts.

Music is the least material of all the fine arts and has a much greater and more absolute freedom in shaping its material in its own way than the rest of them. Thus Beethoven used to say that 'Words are bound in chains but happily sounds are still free,' and all good artistes are bound to feel likewise sometime or other. But as has already been remarked in the second chapter, musical sound is not completely free to have its own way and before being able to

discharge its higher function as an art has to obey certain physical laws of a universal nature. Hence it is said that music is a dual entity and though an art by nature is a science as a matter of exigency. As a science it has to follow the fundamental laws of musical sound, which are the result of purely physical causes and observation and so are universally true. Though it was long, before the laws were known in their modern form, they seem to have always functioned in one form or the other in all known systems of music. This is the reason why the different systems do not materially differ in their view of the general principles of the musical science. The real point of difference between one system and another arises, however, when it is desired to harness these laws to artistic effect. Here there is great scope for personal choice and as previously described, *one may adopt any free principle of style as one's starting principle.* The choice of such a free principle necessitates the creation of certain unities governing the system. The guiding principle of Indian music is the execution of all music in a given or chosen Rāga throughout and to explore the melodic possibilities of that Rāga, in all their details. This principle, when accepted as the one to start with, requires the choice of an accompaniment like that of the drone or else its tonality cannot remain the same for want of any standard of reference. The choice of a drone again has its own repercussions on the Rāga-system and this is how the first two unities are linked up together. These two, with the help of rhythm, make for the larger unity of Indian music. The first two unities supply the physical quality and mood to the music, while rhythm, the third unity, gives it motion and supplies the emotion and governs its rise and fall. As for the artistic pleasure provided by music, it is the result

of its appeal to the intellect as well as the emotions, and that music is considered to be the best, in which there is a happy combination and equipoise of these two factors. The development of the scientific side of music has immensely widened the scope of the intellectual element in music, while the emotional side is governed by the physical, psychological and cultural associations of mankind.

The Æsthetics of music has therefore to deal with both these aspects of the appeal.

The processes governing the intellectual side of music are based upon the correct observance of the scientific principles in general and of the chosen unities in particular; the emotional side has however a very limited field to start with, as at first, music has nothing beyond consonance or dissonance to offer in that respect. The appeal may therefore be either pleasant or unpleasant but cannot specify a particular emotion as such. This inability of music is however removed by supplementing the pleasant or unpleasant effect by the tonal and rhythmic variations, which awaken certain psychological associations and experiences, which lead the mind into the sphere of parallel activity and experiences from life. The appeal becomes still more specific, if it is further associated with certain cultural practices. Thus, music if used for prayer will be considered as devotional and if used for mourning as sad and so on. Here however there is some need for a little caution, as on its own merits such music may or may not be really devotional or sad, but the force of the cultural practices may often be so great as to dictate the mood to music. In such cases, music being yoked to utility loses its significance as an art and simply becomes the handmaid or tool of the cultural practice. So, in the realm of

music, as a pure art, there is a limit beyond which cultural associations or poetry—if allowed a free hand—may replace the processes of music by those belonging to themselves and present such music in which the element of music itself is altogether absent!

In order to give full expression to its manifold beauties, Indian music has developed different forms of musical composition and each of them is associated with some special form of musical expression. These forms however are not elastic enough to admit of a treatment which the light music of to-day needs. There is therefore a tendency to coin out new forms of composition—which however are not really new but are evolved out of the fusion of some popular folk-tune with one of the classical type. Naturally, such compositions do not employ any one Rāga in particular, but pass from one to some other in a free manner and often adopt tunes from European music also. How far this may have its reactions on the individual character of classical Indian music is for the future to decide. But there is at least one encouraging sign of the times that simultaneously with this bid for freedom, the number of persons taking to the academic study of Indian music is also increasing day by day and promises to maintain intact the high and noble traditions of classical Indian music, in spite of these loose tendencies of to-day.

APPENDIX.

REFERENCES.

CHAPTER I

1 (a) षड्जं वदति मयूरो गावो रंभति चर्षभम्.।
अजा वदति गान्धारं क्रौञ्चो वदति मध्यमम् ॥ ३ ॥
पुष्पसाधारणे काले कोकिलो वदति पञ्चमम् ।
अश्वस्तु धैवतं वक्ति निषादं वक्ति कुञ्जरः ॥ ४ ॥ नारदीशीक्षा.

(b) The Māṇḍuki Śikṣā also quotes the above Ślokas.

(c) The Bṛhatdeśi also quotes the same Ślokas, but with a little variation in the last line.

(d) मयूरचातकच्छागक्रौश्चकोकिलदर्दुराः ।
गजश्चसप्तषड्जादीन्क्रमादुच्चारयन्त्यमी ॥ संगीत रत्नाकर.

2 The Ṛgveda Prātiśakhya; the Nāradi and the other Sikṣās of the Vedic period.

3 The experimental method described by Bharata:- (page 318, Canto XXV111,-edited by the Kāshi Sanskrit Series.)

मध्यमग्रामे तु श्रुत्यपकृष्टः पञ्चमः कार्यः। पञ्चमस्य श्रुत्युत्कर्षापकर्षाभ्यां यदन्तरं मार्दवादायतत्वाद्वा तावत्प्रमाणश्रुतिः। निदर्शनंच समभिव्याख्यास्यामः। यथा द्वे वीणे तुल्यप्रमाणतन्त्र्युपपादनदण्डमूर्छिते षड्जग्रामाश्रिते कार्ये। तयोरन्यतरीं मध्यमग्रामिकीं कुर्यात्। पञ्चमस्यापकर्षे श्रुतिं तामेव पञ्चमस्य श्रुत्युत्कर्षवशात् षड्जग्रामिकीं कुर्यात्। एवं श्रुतिरपकृष्टा भवति। पुनरपि तदेवापकर्षात् गान्धार-निषादावपि इतरस्यां धैवतर्षभौ प्रविशतः श्रुत्यधिकत्वात्। पुनस्तदैवापकर्षाद्धैवतर्ष-भावितरस्यां पञ्चमषड्जौ प्रविशतः श्रुत्यधिकत्वात्। तद्वत्पुनरपकृष्टायां तस्यां

पञ्चममध्यमषड्जा इतरस्यां मध्यमनिषादगान्धारवन्तः प्रवेक्ष्यन्ति! चतुःश्रुत्यधिकत्वात्। एवमनेन श्रुतिदर्शनविधानेन द्वै ग्रामिक्यो द्वाविंशाः श्रुतयः प्रत्यवगन्तव्याः।

Translation:—In (obtaining) the Madhyama Grāma, the Pañcama is to be lowered by one Śruti. The Pramāṇa Śruti is the interval between the Pañcama and Pañcama, raised or lowered by one Śruti, or is equal to its distance from the Mṛdu or Āyatā forms. We shall (now) explain how to demonstrate it, as follows:— "Let two Veeṇās exactly alike in point of their strings, sound-boards etc. be tuned alike, with the Ṣaḍja Grāma (intervals.) Of one of them, change the tuning to that of the Madhyama Grāma by lowering the Pañcama by one Śruti. Next, keeping this altered Pañcama as it is, so lower the other notes as to make this Veeṇā give the Ṣaḍja-Grāma type of notes. Thus there is a diminution of one Śruti, Again by a second diminution, the Gāndhāra and Niṣāda (of the altered Veeṇā) enter into (coincide with) the Ṛṣabha and Dhaivata of the standard one. By a third diminution, the Ṛṣabha and Dhaivata of the altered one enter into the Ṣaḍja and Pañcama of the standard one. Lastly by a fourth diminution, the Pañcama, Madhyama, and Ṣaḍja (of the altered one) become Madhyama, Gāndhāra and Niṣāda respectively of the standard one on account of a (total) lowering by four Śrutis. The twenty-two Śrutis of both the Grāmas should thus be understood by means of this method of Śruti-demonstration.

For practical application of Bharata's method, see pp. 41–47 in the body of the Third Chapter.

4 रागमार्गस्य यद्रूपं यन्नोक्तं भरतादिभिः।

निरूप्यते तदस्माभिर्लक्ष्य (ते) लक्षणसंयुतम् ॥ २७९ ॥ रागलक्षणम्

बृहद्देशी पृ. ८१, Trivandrum Edition.

5 अबलाबालगोपालैः क्षितिपालैर्निजेच्छया ।
गीयते सानुरागेण स्वदेशे देशिरुच्यते ॥ १३ ॥ नादोत्पत्तिलक्षणम्
बृहद्देशी पृ. २.

6 Naṭi's song, in the prelude to the first Act of the Abhijnāna Śākuntalam.

इसीसि चुम्बि आइ भमरे सुउमार केसर सिहाइं ।
ओदंसअन्ति दअमाणा पमदा सिरीस कुसुमाइं ॥ ४ ॥

7 (a) तवास्मि गीतरागेण हारिणा प्रसभं हृतः ।
एष राजेव दुष्यन्तः सारङ्गेणातिरंहसा ॥

Last verse in the prelude to the first Act of the Abhijnāna-Śākuntalam.

(b) For a fuller interpretation (of the Śloka) see the author's article on the subject in the Madras Music Academy's Journal, Vol. XI pp. 90–94.

8 (a) लक्ष्माधुना–प्रसिद्धानां सहेतूनां ब्रुवेऽधुना ॥ ६७ ॥

... ...	पृ. १८५ संगीत रत्नाकर
मध्यमग्रामरागोऽयम्	Anandāshrama Edn.
तदुद्भवा ॥ ६९ ॥	पृ. १८६ Ibid.
मध्यमादिर्मग्रहांशा	रागविवेकाध्याय.

(b) How this Madhyamādi happens to be a variety of Sāranga is explained at some length in the article referred to above, in 7 (b).

9 Ahobala's method of tuning the notes of the standard scale, by taking different lengths of a wire under constant tension.

Ahobala's rule:—

षड्जपंचमभावेन षड्जे ज्ञेयाः स्वरा बुधैः ।
गनिभावेन गान्धारे मसभावेन मध्यमे ॥

The learned should know that the notes (in the two tetrachords) of the Ṣadja Grāma are at the distance of a Fifth. So also the intervals, *Ga to Ni* and *Ma to Sā* exist between the corresponding notes in (the two tetrachords of) the Gāndhāra and Madhyama Grāmas respectively.

Verses about the relative langths for the notes:—

स्वरस्य हेतुभूताया वीणायाश्चाक्षुषत्वतः ।
तत्र स्वरविबोधार्थे स्थानलक्षणमुच्यते ॥
ध्वन्यवच्छिन्नवीणायां मध्ये तारकसः स्थितः ।
उभयोर्षड्जयोर्मध्ये मध्यमं स्वरमाचरेत् ॥
त्रिभागात्मकवीणायां पञ्चमः स्यात्तदग्रिमे ।
षड्जपंचमयोर्मध्ये गान्धारस्य स्थितिर्भवेत् ॥
सपयोः पूर्वभागे च स्थापनीयोऽथ रिस्वरः ।
सपयोर्मध्यदेशेतु धैवतं स्वरमाचरेत् ॥
तत्रांशद्वयसंत्यागान्निषादस्य स्थितिर्भवेत् ।ः शुद्धस्वराः ॥

The places (nodes) for each note are described on the Veeṇā, which generates the notes and which can be (duly) seen with the eyes. The node for the upper Sa or Octave, stands at the mid-point of the open wire, and that for the Ma (the Fourth) should be taken mid-way between the two.—the fundamental and its Octave. Dividing the wire-length into three equal parts the Pancama (the Fifth) is obtained at the first division near the top. The Gāndhāra (the Third) is obtained mid-way between the fundmental and its Fifth. The Re (the Second) is to be placed at the first (of the three divisions) between Sā and Pa. while the Dha (the Sixth) is to be placed between the Fifth and the Octave. Again Niṣāda is at the end of the second (of the three divisions) between the Fifth and the Octave.

Accordingly the length of the wire for each note can be easily calculated. Thus taking the length as 36 inches and the vibration number as 240 for the fundamental or Sā, the lengths and frequencies of the various notes of the Śuddha scale, according to Ahobala may be written as:—

Note		Length	Frequency
Sā	(C)	36″	240
Re	(D)	32″	270
Ga	(E_6)	30″	288
Ma	(F)	27″	320
Pa	(G)	24″	360
Dha	(A)	$21\frac{1}{3}$″	405
Ni	(B_6)	20″	432
Sā	(C)	18″	480

The nodal position for Dha is not specifically stated by Ahobala and hence there is great difference of opinion on that point, among the Pandits. "But as Ahobala states in his first rule that the notes in the two tetrachords are to be at an interval of a Fifth, it seems fair to grant him the benefit of doubt and assume that he well knew the required position for Dha." This is the latest view taken by scholars.

For the remaining five or Vikṛta notes of Ahobala, see the relevant Ślokas in Sangita Pārijāta or on page 79 of Pt. Bhātkhande's Paddhati–Vol. II.

10 There were numerous Matas or schools of musical lore. These were :— Shiva-mata, Kṛṣṇa–mata, Bharata-mata, Hanumān-mata, Kallināth-mata, Someswara-mata, Indra-prastha-mata and many others. The first four were ancient and of them also the first

two were long out of date even in the days of the Naghamat-e-Āsafi. Even the Bharata and the Hanumān-Matas, were not then well understood and hence the attempt on the part of Mohammed Reza, to write the Naghamāt-e-Āsafi.

Each Mata started with six basic Rāgas so as to respectively represent the six parent-scales, which were thought as essential for developing the system in full. (For further information on the point, please see Chapter VI pp. 112–113).

11 C/o comments on page 19, Rāgas of Tanjore by E. Clements (I. C. S. Retired).

CHAPTER III.

1 (a) Bharata and Matanga consider the Śrutis to be of five different varieties with five different intervals, but do not mention anywhere the proper names assigned to them.

(b) Śārangdeva and the later authors however mention the proper names of the twenty-two Srutis, and state that the Śruti-intervals are of five different kinds or Jātis.

दीप्तायता च करुणामृदुर्मध्येतिजातयः ॥

संगीत रत्नाकर ॥

Verse 29, Page 41.

Verses 30–39 (page 41–42 of the Sangita Ratnākar —Anandāshram-Edition, give the proper names of the Srutis, in their serial order, as:—

1 तीव्रा, 2 कुमुद्वती, 3 मन्दा, 4 छन्दोवती } For C (सा)
5 दयावती, 6 रजनी, 7 रक्तिका } „ D (रे)
8 रौद्री, 9 क्रोधा } „ E (ग)

10 वज्रिका, 11 प्रसारिणी, 12 प्रीति, 13 मार्जनी	}	,, F (ग)
14 क्षिती, 15 रक्ता, 16 संदीपनी, 17 आलापिनी	}	,, G (प)
18 मदन्ती, 19 रोहिणी, 20 रम्या	}	,, A (ध)
21 उग्रा, 22 क्षोभिणी	}	,, B (नी)

Of course the frequencies of his notes are not known and should not therefore be taken to be those ordinarily represented by the letters C, D, E, F, etc.

CHAPTER IV.

1 Examples of Gross Melodies in folk music :—

(a) आरती

सुखकर्ता दुखहर्ता वार्ता विघ्नाची । नुरवी पुरवी प्रेम कृपा जयाची ॥

Musical Notation

(i) सासा सासा, सासा सासा, सारे सासानि । रेरे रे, रेरे रे, रेरे, रेरे सानीसा ॥

(ii) ,, ,, ,, ,, सारे ,, रेरे रे, रेरे रे, रेरे रेरे ,, ॥

In a group-recitation the note *Re* varies between its major and minor forms. It seems that oldage makes the voice prone to prefer the minor form to the major one.

(b) Also refer to Ex. 28 under 7 of this part of the appendix to Chap. IV.

चूर्णिका

2 { For a handy reference see pp. 33-35 of छंदोरचना by. Dr. M. T. Patwardhan.

3 आर्चिकं गाथिकं चैव सामिकं च स्वरान्तरम् ।
औडवं षाडवं चैव संपूर्णमिति सप्तधा ॥

The fisrt three are the ways of chanting the Vedas: the remaining four belong to the secular type of recitation, and music emplovs the last three alone.

The number of notes functioning in each type of Vedic Chant is given in the following Sloka:—

एक स्वर प्रयोगो ह्यार्चिकस्त्वभिधीयते ।

गाथिको द्विस्वरो ज्ञेयस्त्रिस्वरश्चैव सामिकः ॥

4 Climax:—

This method of effecting the climax is to be seen in all types of popular and folk-music and deserves careful study as it unfolds the whole technique of making any musical piece effective to any desired degree. As such, the study of this technique must form an essential part of the theoretical portion, a student of classical music has to study.

The following are a few typical instances—

The play-ground method of effecting the climax:—

(a) Girls:—

कं, मेरा, चक्री भोरा, भो भोरा, भो भोरा, continued indefinitely.

(b) Boys:—

हुत्तु, तु, तु तु, तु त तु तु " "

In (a), the mnemonic is recited by one girl trying to overtake another running round and round an agreed pillar, object or person. The underlined part alone is repeated with gradually increasing loudness, pitch and tempo which are governed by the keenness of the pursuit, and thus the pace of the game advances towards a climax.

In (b), a boy who wants to attack his opponent is to commence reciting the mnemonic as soon as he crosses the boundary line separating the two parts of the Hututu Court one for each party. His movements in his opponents' court are governed by similar variations in the under-

lined part of his recitation and the climax is reached as in (a) above.

(c) Team-work-method of climax:—

The co-ordination of effort is effected in all team-work whether in industry or in other walks of life, by regulating the movements of the participating persons to the rhythm of a group or mnemonic-song. Quickening of the tempo and increase in the intensity and pitch of the tone advance the pace of the work. If the work employs some type of machinery of which the wheels etc. revolve in a cyclic manner, the mnemonic assumes the form of a regular musical song due to the perfect regularity of the rhythm of revolution.

(d) The Haridāsi-method of climax:—

See as explained in the body of the present chapter, page 67.

5 Sāma-Gāna:—For examples rendered into musical notation refer to the following:—

(1) Rev. Popley's 'The Music of India.'

(2) M. M Academy's Journal Vol. IV pp. 150–152 & Vol. V pp. 2–16.

—also to the 'Ancient Mode of singing Sāmagāna'-a pamphlet about Sāmagāna published by the late Pt. Laxamaṇśāstri Dravid of Poona.

The Deccan College Research Institute of Poona has also taken six records of Sāmans as sung by Pt. Dravid. It, however, appears that Pt. Dravid has clothed the Sāmans in modern apparel.

6 Refer to any collection of modern film-songs published into notation, e g सिनेमासंगीत, (4 parts) published by Mr. Moholkar of Sholapur

7 Examples of Chant, Recitation and Folk music :-

Ex. (a) Private prayer or Ārcika style of recitation :-

Written Text :— राम राम राम राम Contd. indefinitely
Phonetic Text :— रां रां रां रां ,, ,,
Musical Notation :—सा, सा, सा, सा ,, ,,

Finding :—Literally monotonous.

Ex. (b) Gāthika style of recitation.

Written Text :—	जय विठ्ठल । जय जय विठ्ठल	Repeated
Phonetic Text :—	जै विठल । जै जै विठल	Several
Musical Notation :—	ऩी ऩिसासा । ऩिऩि ऩिसासा	Times.

Finding :—Only two consecutive notes are employed.

All the twentyfour Bhajans in Marāthi like ग्यानबा तुकाराम, रामकृष्ण हरि etc. given by Mr. L. R. Pāngārkar in his भक्तिमार्गप्रदीप page 100, XVI *Edn.* are recited in the Gāthika style ; also the famous चर्पटपञ्जरिका स्तोत्रम् of Shri Śankārācārya.

Ex. (c) Sāmika Style

Written text :—

राम राम राम राम । सीताराम सीताराम

Phonetic text :—

रां रां रां रां । सीता रां सीता रां

Musical Notation :—

सा सारे गग, गग, । रेग रे सासा सा

Finding :—Only three consecutive notes are employed.

The tune of all the पाढे (Ready-reckoning oral lessons) tables in Marāthi is exactly the same as that of the

above example. The Sāmika style has influenced the entire sphere of recitation to be met with in our every-day life, such as the Nursery–Rhymes, Proverbs, and other simple songs and ditties.

For Vedic chant of Arcika, Gāthika and Sāmika styles, one may request a Brāhman–priest to give an actual demonstration.

(d) Recitation of Metres.

ध Group

Ex. 1 इन्द्रवज्रा.

— — ◡ — — ◡◡— ◡ — — — — ◡— — ◡◡— ◡— —

ध़ सा रेगगग गगरे ग, सारे । रेगग सारेगग, गगरे, गरेसा

Odd Lines | Even lines ·

देखोनि डोळां, हृदया भिरामा । रामापुढें धा, वतसे सुकामा

Ex. 2 उपेंद्रवज्रा

(◡ — ◡ — —, ◡ ◡ — ◡ — —)

This has the same number of syllables to a line as Indrawajrā, and the music notation of its tune is also exactly the same, though the first syllable here is a short one.

This is why the two metres are freely and inadvertently mixed up together and are not easily detected by the listener either.

Ex. 3 For similar reasons, the Metre Indrawansa (- - ◡- -, ◡◡ -, ◡-, ◡-) has also the same musical notation.

In general, two metres having the same number of syllables in each section of their lines are found to have the same music notation, irrespective of the short or long character of the syllables.

Ex. 4 & 5. Thus, स्वागता and रथोद्धता have the same notation.

– ᵕ – ᵕ ᵕ ᵕ – ᵕ ᵕ – – ......Swāgatā.

– ᵕ – ᵕ ᵕ ᵕ – ᵕ – ᵕ – ......Rathoddhatā.

धृ सा रे ग्ग, रे ग ग, ग रे सा रे ......Odd lines.

रे ग्ग रे सा, रे ग्ग ग, ग रे.सा सा ......Even lines.

Ex. 6. वंशस्थ

ᵕ – ᵕ – – ᵕ ᵕ – ᵕ – ᵕ – ᵕ – ᵕ – – ᵕ ᵕ – ᵕ – ᵕ –

धृसा रेग ग्ग, ग ग रे रे सा सा रे । सा रे सारे ग्ग, ग ग रे, गरेसासा

Odd lines | Even lines,

असे जयाला धन तोचि पंडित । कुलीन तो तो चि गुणी बहुश्रुत

Ex. 7. द्रुतविलम्बित

ᵕ ᵕ ᵕ – ᵕ ᵕ – ᵕ ᵕ – ᵕ – ᵕ ᵕ ᵕ – ᵕ ᵕ ᵕ ᵕ ᵕ – ᵕ –

धृ सा रेगरे ग ग्ग , ग ग रे, सा रे । रेंरे ग्गरे सारे ग्ग', गग रे सा सा

Odd lines | Even lines.

करि कमंडलु दण्ड मृगाजिन । त्रिजगमाप करी बटु वामन

Ex. 8. वसंततिलका

– – ᵕ – ᵕ ᵕ ᵕ – ᵕ ᵕ – ᵕ – – – – ᵕ – ᵕ ᵕ ᵕ – ᵕ ᵕ – ᵕ – –

धृसा रे ग ग ग रेग, ग गरे ग्ग सा रे । रे रे सा रे सा रे रे ग्ग, ग ग रे ग रे सा

Odd lines | Even lines.

सारी क्षतांकित फळें, निरखोनि डोळा । कांही अशी तिज पुसे, रघुराज भोळा ॥

(नी Group)

Ex. 9. शालिनी

(– – – –, – ᵕ –, – ᵕ – – | – – – –, – ᵕ – – ᵕ – –)

नीृ नीृ नीृ सा रे ग्गृ रे रे रे सा रे । रेगृ सा निृ निृ सां रे गृ रे सा सा

Odd lines | Even lines.

संपत्काळीं कोंवळें सज्जनांचें । होतें चित्त ज्ञातिपं, केव्हांचें

Ex. 10.　　मालिनी

⏑ ⏑ ⏑ ⏑ ⏑ ⏑ – – – ⏑ – – ⏑ – – | ⏑ ⏑ ⏑ ⏑ ⏑ ⏑ – – – ⏑ – – ⏑ – –

ऩिऩिऩिऩिऩि ऩिऩीसा, रेग्रेग रेसा रे। रेग् ग् रे सा रेऩी ऩी, ऩी सा रेग् रे सा सा

Odd lines | Even lines.

मधुरतर फळांची, पूर्ण घेवोनि गोडी। मज मग रघुनाथा, ठेवितां होय खोडी

Ex. 11.　　मन्दाक्रान्ता

– – – – ⏑ ⏑ ⏑ ⏑ ⏑ – – ⏑ – – ⏑ – –

Odd lines　रे रे सा सा, नि नि नि नि नि सा, रे ग्ग ग　ग रे सा रे

Even lines　ग ग्ग ग ग्ग, ग रे ग ग ग ग, रे ग ग्ग　ग रे सा सा

कश्चित्कान्ताविरहगुरुणास्वाधिकारात्प्रमत्तः
शापेनास्तंगमितमहिमा वर्षभोग्येण भर्तुः

Ex. 12　　स्रग्धरा

– – – – ⏑ – – ⏑ ⏑ ⏑ ⏑ ⏑ ⏑ – – ⏑ – – ⏑ – –

Odd lines　रे रे सा सा ध़ नी सा, ऩि ऩि ऩि ऩि ऩि ऩि सा, रे ग्ग ग ग रे सा रे

Even lines　गग्ग गग्ग गरेग्ग, गग॰। गगरेग्ग, रेग्गग गरेसासा

साधूंचा त्याग अर्ध, क्षणहि न करवे, आमुचे देव संत
श्री दे सत्संग आम्हां, जसि वहनि कृपा, कानना दे वसंत.

Ex. 13　　शिखरिणी.

⏑ – – – – –, ⏑ ⏑ ⏑ ⏑ ⏑ – – ⏑ ⏑ ⏑ –

Odd lines　ऩि ऩी ऩी सा ग रे, ऩिसा रे सारे ग़ रे सा ऩिसारे

Even lines　रे ग़ ग़ रे साऩी, ऩिसारे सारे ग़,रे सा सारेसा

विसांवा घे कांहीं, उडुनि लवला,ही परतला
नृपाळाच्या स्कन्धीं, बसुनि मणिबं,धी उतरला

Ex. 14　　हरिणी

⏑ ⏑ ⏑ ⏑ – ⏑ – – – – – ⏑ – ⏑ ⏑ – ⏑ –

All lines　रे ग्ग रे सा ध़ सा ग्ग़ रे, ध़ सा रे ग्ग,रे ग्ग रे ध़ सा

क्षणहि तुमची देवा, सेवा नसे, घडली मला

Ex. 15 पृथ्वी

⏑ – ⏑ ⏑ ⏑ – ⏑ – ⏑ ⏑ ⏑ – ⏑ – – ⏑ –

Odd lines म प ध प म ग , म प ध प म ग, रे ग ग्ग रे सा

Even lines सा रे रे सा रे प, म ग रे सा रे नि़, रे ग ग्ग रे सा.

फळें मधुर खा,वया असति नि,त्य मेवे तसे.

हिरेजडित सुं,दरीं कनकपं,जरीं ही वसे

Ex. 16 (a) शार्दूलविक्रीडित.

– – – ⏑ ⏑ – ⏑ – ⏑ ⏑ ⏑ – – – ⏑ – – ⏑ –

Odd lines सा सा रे म म प, म प प्प प ध प , प सांऽनि ध, म धप

Even lines ध ध प म म ग, रे ग म ग रे सा, रे प्पऽमग, सा रे सा

म्हातारी उडतां, नयेच तिजला, माता-मदीया अशी

कान्ता काय वदों नवप्रसव ते, साता-दिसांची तशी

Ex. 16 (b) Another old and popular variation of शार्दूलविक्रीडित

All four lines :—

ग ग़ ऽ ऽ ऽ रेसा ध़, ध़सारे, रेग़्रेसासानि़, ध़सा रे ग्ग ग म ग

गं गा ऽ ऽ ऽ ऽ गो- मतिगो पतिर्गणपति गोंविंद गो वर्धनौ

This variation is very old and popular and is traditionally and exclusively used in reciting the मंगलाष्टक verses or benedictory Ślokas blessing the bride and the bridegroom, while they are being married.

Ex. 17 Metres with one and the same Gaṇa repeating itself several times in one line.

१ भुजंगप्रयात ⏑ – – repeating four lines.

२ स्रग्विणी – ⏑ – ,, ,,

३ सारंग – – ⏑ ,, ,,

४ मौक्तिक दाम	ᴗ –	,,	,,
५ मोदक	– ᴗ ᴗ	,,	,,
६ तरुल्नयन	ᴗ ᴗ	,,	,,
७ विद्याधर	– – –	,,	,,
८ तोटक	ᴗ ᴗ –	,,	,,

As one and the same Gaṇa repeats itself in these metres, the element of regularity of rhythm becomes quite evident in their recitation which is plain and simple enough. These metres of the Akṣara Gaṇa category are as it were the joining links between the Akṣara and Mātrā Gaṇa types of the Vṛttas or metres.

The tune of पंचचामर is an example of the Mātrā Vṛtta in which the group ᴗ – occurs eight times successively in one line and is like a modern marching tune.

Mātrā Vṛttas

Ex. 18 The Mātrā Vṛttas are measured by the total quantity and not by the sequence of long and short syllables. Still they take a group of four Mātrās as a unit and in certain Vṛttas the places of stréss and rest are fixed by usage and rather in a singular manner in some cases.

मोरोपंती आर्या-गीति

Notation, सा ग गग, ग गग ग, ऱे ग, ग ग प, म ग ऱे, नि ऱे, ग।

Notation, म ग ग ग गऱे सा, नि़ नि़ नि़ नि़ ऱे ग, म ग ऱे नि ऱे सा.

Text. हा सीते हा सीते, टाकुनि जावें, तुवा न रामातें।
राहू तें जेविं सुधा, देविन जिरलीस तूं नरा माते ॥१॥

Ex. 19 साकी (दोधक) (Modern चंद्रकान्त)

Notation, ध़ सासा सा रे, रे प म ग, रे ग रे सारे, गग रे

Notation, सा रेरे गग रे, ध़ नि नि़ ध़प़ प़ ध़प़ सासा रेरे ग़ सा.

Text, त्याच तळ्याच्या कांठी आहे क्रीडा-मंदिर ज्याचे

Text, नील मण्याचें चमके सुंदर रत्नखचित जें साचें ॥

Ex. 20 दिण्डी

1st two lines,

सा सां नी ध प प म ध प म ग़ रे, सा रे ग़ रे ग़, ऽ सा ऽ

कृपासागर तूं, असिस जग, न्ना ऽ ऽ ऽ ऽ ऽ था-

नम्र करितो तूझिया पदीं मा ऽ ऽ ऽ ऽ ऽ था.-

3rd line Notation

ग म प प, प प प ध-प, प प सां नि ध नि ध प म ग म

असो आम्ही अति पतित-दुराचा ऽ ऽ ऽ ऽ ऽ री-

Notation ' रे रे ग़ म प प, म ध प म ग़ रे सा रे ग़ रे ग गग ऽ सा ऽ

4th line तूंचि होउनि बा, सदय आम्हां ता ऽ ऽ ऽ ऽ ऽ री-

Ex. 21. कामदा

Notation प़ ध़ सा ध़सा, | नि रे सा ध़ नी़

1st line आस ही तुझी, | फार लागली।

Notation नि रे गग गरे, | नि रे सा नि़सा

2nd line दे दयानिधे, | बुद्धि चांगली ॥

Ex. 22 Hadaga-Dance. (1)

Duet.

Music Notation प़ नि़ नि़ सा प़ | सारे सारे गग | सारे सा-प़

All lines माझ्या माहेरचा | वैद्य आणा बाई | वैद्य आ-णा

Ex. 23 Hadaga-Dance. (2)

Notation पृनिं निनि निसा | साग् रेग् रेसा

Refrain माझ्या माहेरीच्या | वाक गुजरीच्या

Question सा ग ग्ग ग ग ग ग | गग गरे सारे

तुझ्या ग माहेरच्यानं | तुला काय दिलं ?

Answer ग ग ग्ग ग ग ग ग | गग गरे रेसा

माझ्या ग माहेरच्यानं | मला दिला हत्ती

and fresh questions and answers go on in like manner.

Ex 24. अनुष्टुम्

Notation सा ग ग्ग, रे ग्ग रे, सा ध़, सा ग रे, रे ग्ग रे, सा सा.

Notation सा ग ग्ग, रे ग्ग रे, सा ध़, सारे सारे गरे सासा

1st line कृष्णाय वासुदेवाय हरये परमात्मने

2nd line प्रणतः क्लेशनाशाय गोविंदाय नमो नमः

Ex. 25 Bookish Owi.

ॐ नमोजी हेरंबा | सकलादि तूं प्रारंभा

ग्ग गगग रेगग | गगगग ग रेगग

आठवुनि तुझी स्वरूपशोभा | वंदन भावें करीतसें ॥

गगगग रेग रेगग, रेरे | सारेरे गरे, गरे-सासा

Ex. 26 Musical Owi.

1st three lines पहिली माझी ओवी

पहिला माझा नेम

तुळसी खाली राम

Notation सासारे, सारे, ग़रे

4th line पोथी वाचे

रेरे, रसा

Ex. 27 The early type of अभंग is exactly like the musical ओवी in its tune,

Compare जीव शीव दोनी । केले एकाकार । बोले ज्ञानेश्वर । तोचि योगी ॥

Ex. 28 Evolved type of अभंग.

घेई घेई माझे वाचे । गोड नाम राघोबाचे
मना तेथें धांव घेई । राही राघोबाचे पायीं

Music Notation :—साग् रेग्, ग्रे सारे। रेग् रेग्, रेग् रेसा

Still Advanced variation :—

सारे ग्रे, निध् नीसा। निसारेग्ऽ, रेप मप ग् ऽ रे

In such tunes the note ग may appear either with the major or its minor form giving a gross-melody as in आरति.

उद्धव-जाति

Ex. 29 Such Songs as— उद्धवा शांतवन कर जा take a regular Rāga tune, (as that of Pilu etc.) but then their music is extremely plain and simple in character and serves as but a stepping stone to the tunes of classical music.

8. Mr. A. G. Chagla of M/S. Chagalas, Bunder Road, Karachi, merchant and a scholar of music, who travelled by land-route twice to Europe & back, stayed in Iran, Arabia, Egypt, Eastern Turkistan and other countries for studying their classical as well as folk music.

CHAPTER V

Explanatory note about the basic and chromatic scales used in Indian music :—

The six scales given on page 97 include both the auxiliary notes F and G and are perfectly symmetrical in both the tetrachords and employ at least five major consonances. The remaining two notes also are not very remote in character.

The next, in point of merit to these, is the following scale which omits G but includes F and is (fairly) symmetrical in both the tetrachords.

Scale No. 7 :—

C	D	E	F	F♯	A	B	c
240	256	300	320	$341\frac{1}{3}$	400	$453\frac{1}{3}$	480.

These seven scales serve the purpose of all the present-day Rāgas. Thus :—

Scale No. (1) is employed by Rāgas of the Naṭa group.
„ „ (2) „ „ „ „ like Madhyamādi

Scale Nos. (1) and (2) together contribute the scales for Khamāja and Bilāwal groups. Scales derived by combining two such scales are very similar to those of Folk music. Bihāga employs No. (1) with F♯ in addition, the Kalyān-group employs No. (2) with F♯ and B instead of F and B♭♭ respectively.

Kedār employs No. (2) with F♯ and B in addition. No. (3) is employed by the Kāfi and allied Rāgas. Nos. (1) and (3) combined together contribute the scale for the Mallhār-group.

No. (4) is employed by Rāgas like Asāwari and those of the Kānadā type.

No. (5) is employed by the Bhairava-group. The Purvi-group employs No. (5) with F♯ in addition.

No. (6) is employed by Bhairavi. Todi employs No. (6) but with F♯ and B instead of F and B♭ respectively.

No. (7) is employed by Rāgas like Lalita, Puriyā, Mārawā and Hindol etc.

(1) In some Rāgas an extra note is often employed as an accidental, which however may not fit in the scheme of symmetry between the two tetrachords. Such a note is however employed for some artistic purpose, either as a leading note or as one to distinguish that Rāga from another very close to it.

(2) Again in certain Rāgas there is usually no agreement among artistes about the degree of flatness or sharpness of a note taken in a chromatic manner. These notes being chromatic in character naturally invite adaptation according to individual capacity, skill or taste and are therefore bound to be different with different people. But in all such cases, the artiste tacitly follows the formula of symmetry and places the other note in the other tetrachord in such a manner as to provide perfect symmetry with the note, he first chooses in the first tetrachord.

CHAPTER VII

Gamakas or Tonal Variations.

स्वरस्य कम्पो गमकः श्रोतृचित्तसुखावहः

तस्य भेदास्तु तिरिपः स्फुरितः कंपितस्तथा ॥

लीन आंदोलितवलितात्रिभिन्नकुरुलाहताः ।

उल्लासितः प्लावितश्च गुंफितो मुद्रितस्तथा ॥

।मितो मिश्रितः पंचदशोति परिकीर्तिताः ॥ सं. रत्नाकर ॥

In the above Slokas, Sārngdeva mentions fifteen kinds of Gamakas or tonal variations. At present there are about ten varieties in vogue and a majority of them are practised in instrumental music only. The Gamakas are now known by such modern names as, Meenda, Ghasita, Suntha, Larazā etc. Most of the professionals

make such variations as Gamakas, only through the force of long association and habit and only a few know their real technique.

CHAPTER IX

1. See pp. 52–61 of Chapter VI of the Report of the Committee for Music Education appointed in 1948 by the Government of Bombay.

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